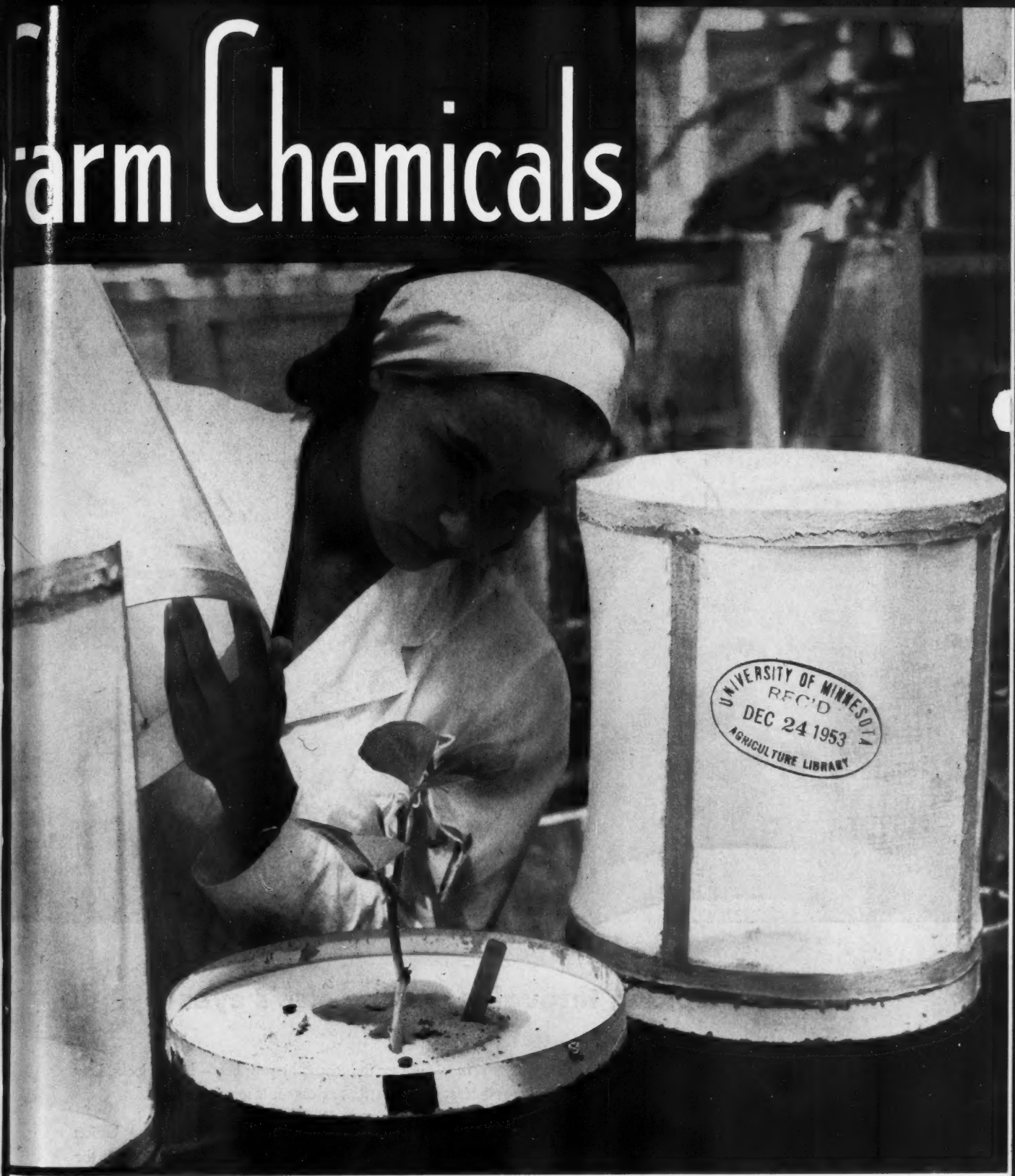
arm Chemicals



Nitrogen Solutions (NITRANA* and URANA*)	ARCADIAN* The American Nitrate of Soda	A-N-L* Nitrogen Fertilizer
Urea Products	ARCADIAN* 12-12-12 Granulated Fertilizer	Sulphate of Ammonia

*Trade mark of Allied Chemical & Dye Corporation

Nitrogen Division
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Allied Chemical

NITROGEN DIVISION ALLIED CHEMICAL

Richmond 19, Va. • Hopewell, Va. • South Point, Ohio • Atlanta 3, Ga. • Columbia 1, S. C. • San Francisco 3, Cal.

She's looking through someone else's eyes

Few purchases are made without thought of how they will be judged by others.

Men who order more than 85 per cent of all Multiwall bags are well aware of this. They rate* a good impression high on their purchasing check list. This, of course, includes a good printing impression.

When your Multiwall bag puts its best foot forward visually, you take a long step toward both winning and holding your customer.

The *use* of what you sell, and the *re-orders* you receive, *inevitably* are influenced by your bag — how it looks, how easy it is to read, how easy it is to remember.

Most often, the best-dressed Multiwalls are Union Multiwalls. This is one of many good reasons why the biggest users of Multiwalls today look to Union for a greater proportion of their needs than at any other time.

More so every day . . .

IT'S UNION FOR MULTIWALLS

TRADE MARK UNION

**August, 1951 research study.*

UNION BAG & PAPER CORPORATION • NEW YORK: WOOLWORTH BUILDING • CHICAGO: DAILY NEWS BUILDING

Published monthly. Annual subscription: in the United States, $3.00; Canada and Mexico, $4.00; other countries, $5.00. Entered as second-class matter, January 15, 1910, at the Post Office at Philadelphia, Pa., under Act of March 3, 1879. Registered in United States Patent Office. Publication office, 317 N. Broad St., Phila. 7, Pa.

In this issue . . .

What's ahead for the American farmer, and what's ahead for the fertilizer industry serving him . . . chief points of discussion at the National Fertilizer Association's 27th Southern Convention in Atlanta, Nov. 16–18. Picture story on page 11.

A new selective grass killer called Dalapon was announced as we went to press. The herbicide is described in the feature on page 15 in this issue.

Agricultural ammonia is just coming into its own as a source of nitrogen for crops, and things look even better for the future. That was the consensus at the Agricultural Ammonia Institute convention last month. For a report on the meeting and complete text of an important talk by C. J. Bown, of Grace Chemical Co., turn to page 16.

One of the most active trade groups in the fertilizer industry is the California Fertilizer Association. With the 30th annual convention a big success, the group now is making plans for the new year. Convention article on page 21.

Most of the papers presented at the Eastern Branch meeting of the Entomological Society of America were highly technical, but several should be of immediate interest to members of the pesticide industry. Read about the meeting in the article on page 25.

Looking for ways of making your fertilizer production more profitable? You might find some tips in the picture story of Dixie Guano Co., page 28.

Last month seemed to be the month to get together, with fertilizer and pesticide meetings scheduled throughout the country. See the brief feature on the Middle West Soil Improvement Committee meeting on page 31.

Pesticide manufacturers always look forward to the New York State Insecticide and Fungicide Conference each year at Cornell. Report on the recent meeting is on page 33.

Virginia-Carolina doubled its plant output at the Mt. Pleasant, Tenn. plant recently by using modern methods. Read how they did it, page 36.

The way you place fertilizers has a big effect on their usefulness. That's the reason for the meeting earlier this month on fertilizer application. Page 39.

A brief summary of fruit insect conditions in New York and New England is given on page 41.

Real headway in the program of fertilizer safety is being made by the Fertilizer Section of the National Safety Council. Read about their recent meeting on page 46.

farm chemicals

Formerly
American Fertilizer & Allied Chemicals
Established 1894
PIONEER JOURNAL OF THE FARM CHEMICALS INDUSTRY

Vol. 116 **DECEMBER, 1953** **No. 12**

Contents

Cover Story

At U. S. Rubber Co.'s agricultural laboratories, Pat Warner demonstrates the special cloth cages used to keep aphids from "leaving home." Broad bean plants infested with the insects are sprayed with experimental chemicals. Later the cages are opened and live and dead aphids are counted to determine potency of the chemicals.

A magazine international in scope and circulation and devoted to manufacturers, mixers, and formulators of fertilizers and pesticides

CCA
Member Controlled Circulation Audit

Published Monthly by
WARE BROS. COMPANY
317 NORTH BROAD STREET, PHILADELPHIA 7, PA
Telephone MArket 7-3405

Staff
SAM LEWIS VEITCH . . . . . Publisher
A. A. WARE . . . . . Editor
HAMILTON C. CARSON . . . . . Managing Editor
G. P. TEEL, JR. . . . . Assistant Editor
PHYLLIS L. GERHART . . . . . Editorial Assistant
HELEN M. HAUSMAN . . . . . Circulation Manager
K. F. WARE . . . . . Advertising Manager

Advertising Representatives
Harold H. Short, Jr.
51 E. 42nd St., New York 17, N. Y. . . MUrray Hill 7-6669
Al Zilenziger
333 N. Michigan Ave., Chicago 1, Ill. . . . FRanklin 2-7100
William Blair Smith
Russ Building, San Francisco 4, Cal. . . . . EXbrook 2-3723
Hughlett Hollyday Jr.
505 S. Alandele Ave., Los Angeles 36, Cal. WEbster 8-1201

Subscription Rates
U. S., its possessions, Cuba and Panama per year . . . $3.00
Canada and Mexico 4.00
Other Foreign Countries 5.00
Single Copy 25
Back Numbers 50

farm chemicals facts

. . . Briefly Noted

Arthur M. Gladstone has been named chief chemist of Nopco Chemical Co.'s newly reorganized Agricultural Chemicals division. At present the division is marketing a revised line of agricultural emulsifiers, the Agrimul series, and Gladstone is engaged in a program to improve the Agrimul line.

Gladstone

Before going to Nopco, he was employed by Pittsburgh Coke and Chemical Co. as assistant supervisor of agricultural chemical research.

J. V. Richards has been promoted to manager of the Bemis Bro. Bag Co. plant at Brooklyn, the position formerly held by A. C. Ewer, who died in October. Richards went to Bemis in 1923 and was made assistant manager at Brooklyn in 1946.

Lee E. Cuckler has been named manager of the Engineering department of Fielden Instrument division, Robertshaw Fulton Controls Corp. He will be responsible for all application and technical services.

Joseph P. Stanavage has joined the Research and Development division of Pennsylvania Salt Manufacturing Co. He formerly was with General Chemical division, Allied Chemical & Dye Corp.

Consolidated Chemical Industries, Inc. has named J. C. Crowder general superintendent of its Southern division. Since 1940 he has been manager of the Fort Worth, Tex. plant and prior to that was assistant superintendent of the Houston plant.

Ralph K. Gottshall, president of Atlas Powder Co., has been elected a life trustee of Lafayette College. Godshall is a Lafayette alumnus, having received his B.S. in chemistry, magna cum laude, in 1927.

Arthur D. Little, Inc.'s Midwestern office has been moved from St. Louis to the Board of Trade Building, Chicago 4. John R. Kirkpatrick will remain in charge of the office.

Mason E. Lee recently was named a district sales representative for Hammond Bag and Paper Co., and will represent Hammond in Alabama, Mississippi and Louisiana.

Richard J. Both has been appointed sales manager, agricultural chemicals, Naval Stores department of Hercules Powder Co. Both, who formerly was assistant sales manager, succeeds the late Frank U. Rapp. He joined Hercules in 1940 and has been with the insecticide group of the Naval Stores department for the past eight years.

Recently appointed packaging engineer in the Sales department of Chase Bag Co. is Carl F. Sprague. Previously, he had been manager of the Packaging Engineering department of Sherwin Williams Co.

New telephone number for Nitrogen Products, Inc., of New Brunswick, N. J., is CHarter 9-5900.

Rules were to be drawn up for the synthetic soil conditioner industry at a trade practice conference scheduled for Dec. 10, by the Federal Trade Commission. The commission invited industry members to submit their own proposals in writing or in person at the conference.

Wright W. Gary has been elected president and chief executive officer of Attapulgus Minerals & Chemicals Corp. He succeeds Louis R. Streadner, who will retire as president on Jan. 1 after more than 40 years' service with the company. Gary's election becomes effective on that date.

New director of purchases and general credit manager for Stauffer Chemical Co. is Arthur H. Swanson. Prior to his promotion, he held the same positions in the company's eastern division. His headquarters will continue to be in New York.

T. B. Neeley has joined the sales staff of Potash Co. of America, representing the company in North and South Carolina and Virginia. He recently was released from the U. S. Navy with the rank of Lieutenant, j.g.

Elwyn E. Winne has been elected a vice president and director of Grace Chemical Co. William R. Thurston and John T. Whitley have been elected directors. Winne formerly was an assistant vice president, Thurston is president of Thurston Chemical Co., and Whitely is an assistant vice president of Grace Chemical Co.

Harvey V. Eastling has been appointed general manager of Link-Belt Co.'s Pacific division, with headquarters in San Francisco. He succeeds Ralph M. Hoffman, who is retiring after 40 years of service.

Eastling

He joined Link-Belt in 1925 as chief draftsman at the San Francisco plant and later became chief engineer of the Pacific division and manager of engineering sales in Seattle. In 1940 he was named general sales manager of the division. On June 1 he was promoted to assistant general manager.

Diamond Alkali Co. has named Frank Grilli to its New York sales staff. He formerly was manager of Innis, Speiden & Co.'s resale chemical department.

Grayton F. Dressel has succeeded Ivan F. Harlow as production manager of inorganic chemicals, Dow Chemicals Co. Harlow is serving as a consultant.

CALENDAR

Dec. 6-8—CSMA annual meeting, Washington, D. C.
Dec. 7—Nat'l. Joint Comm. on Fert. Application, annual meeting, Chicago.
Dec. 9—Ga. Plant Food Educational Soc. meeting, Athens.
Dec. 11-12—Kan. Fert. Conf., Manhattan.
Dec. 15—NAC Southern Group Meeting, Memphis, Tenn.
Dec. 15-16—Mich. Lime & Fert. Conf., East Lansing.

Farm Chemicals

Washington Report

By Fred Bailey & John Harms

It now is becoming more clear what Ezra Taft Benson means to the farm chemicals industry. The new Secretary of Agriculture, after almost a year in office, has become a symbol of change.

Two of the things you'll notice because of the change-over from Charles Brannan's more-government-aid philosophy to Benson's more free enterprise ideas are these:

1. Pesticide and fertilizer manufacturers will be asked to take a bigger part of the research load in agriculture. Government funds for such research will not be cut, in fact very likely will be increased, but a greater liaison between industry and government is now sought. Division of research responsibility envisioned is that industry stress more the practical types of research--government, the basic kinds.

2. De-emphasis of Washington--stressing of state farm units for research and action programs. Practical application: Where you formerly had only one place to go for top-level contacts, you now may find the need for visiting at least 48 different places.

Secretary Benson wants to abdicate much work now being done by the USDA in favor of the Land Grant Colleges. He has asked them to take over the field of balanced farming--helping farmers adjust to market needs, guiding them on production shifts. He will urge Congress to provide increased funds for the Extension Service. County agents are to be moved into the premier spot on farm programs. More will be added in many counties. They are to implement Benson's desire to get research results into swifter practical application on farms.

What USDA Reorganization Means

Agriculture Department reorganization now is almost complete. Purposes: To make more efficient . . . to decentralize. Major changes of interest to the industry:

Administration of the Insecticide Act has been moved from the now defunct Production and Marketing Administration to the Agricultural Research Service. Personnel also is to be shifted.

Bureau of Entomology and Plant Quarantine has been split roughly in two. Bureau research now is in the research end of the Agricultural Research Service, regulatory work is under Division of Regulatory and Control in the regulatory half of the ARS. Criticism on the separation of entomological research and regulatory work hinges on the fact that the two have worked hand in glove before.

All other research-regulatory bureaus under the old set-up have been splintered. Although they both continue under the over-all research organization, they now are in separate bureaus. This was done in the belief that operations on a functional line would be more efficient--as opposed to the former general commodity line.

Farm price supports are to remain high, rigid, indefinitely. That is the thinking now of top farm congressmen we've talked with. They are not going along with Benson and his ideas of more flexibility . . . at least not now when farm

prices are weak. As an added plug along this line, the National Grange opposes a lowering of supports "at this time," and the Farmers Union continues to push for even higher supports.

Sticking To His Guns

The issue of high versus flexible support levels may catapult Secretary Benson out of his cabinet chair. As this issue went to press, it appeared almost certain Benson would stick to lower supports regardless of the mood of Congress. If he does so, pressure to unseat him may become too great for the president to ignore. So far Ike has been cautiously supporting Benson--he believes Benson has the right general ideas, likes him personally. But politicians seeking re-election next year may force the issue.

Fertilizer Prices Seen Steady

Official government forecast for fertilizer prices in 1954 calls for "little change" from present price levels. Prices of some kinds, however, may be down somewhat. Bureau of Agricultural Economics estimates that fertilizer prices to farmers this year averaged about two per cent higher than a year ago.

This forecast comes despite estimates that the aggregate supply of the three major plant nutrients for 1953-54 will top record output of last year by about 13 per cent. This would indicate that farm demand can be expected to continue strong for plant foods regardless of lower farm income.

Pesticide outlook for 1954 is considered in official circles as somewhat improved over a year ago. Stocks of insecticides, fungicides and weed killers held by manufacturers and dealers at the end of the 1953 season are "considerably" smaller than the large inventories of last year. They're considered "about normal." Much of the reduction is due to smaller stocks of DDT, BHC and similar insecticides.

Officials believe that when final returns are in a new record may have been set for insecticides used on cotton this year.

Another Delay for Tolerances

There now is some indication that Secretary Oveta Hobby of the Health & Welfare Department may hold up issuance of tolerances for more than 100 pesticides until after Congress makes a decision on the Miller bill. Insiders say that the new Administration was determined to bring out the tolerances as quickly as possible, believing them of help to the industry, but indications are some uncertainty has hit the top brass.

Farm Outlook for '54

Here are some highlights of what you can expect on the farm market next year, as seen by top agricultural economists: The farmers' cost-price squeeze is to continue, but not tighten significantly. Farm prices will average about 3-5 per cent below this year. Farm price fluctuations are likely to be less violent, steadier . . . unless again upset by a severe drought.

Gross farm income very probably will be down somewhat . . . due largely to expected production declines resulting from acreage controls and marketing quotas. Net farm income, as a result, will not go up much--may even go down slightly from this year's estimated $12.5 billion.

Government programs and actions will be aimed at preventing further price declines in agriculture. Next year is officially regarded as a "transition" period . . . time to start readjusting production and building markets at home and abroad.

For consideration in making long range plans: By 1960 US agriculture likely will be considerably different than it is today--according to studies being made by farm economists who deal in long-range trends. At present slightly more than half of our cultivated acres is used to produce livestock. By 1960, if current forces continue, almost two-thirds of the cultivated acreage will be used to support livestock. It means more intensive farming of direct-consumption food crops . . . increasing acreage for livestock feed crops.

HUDSON

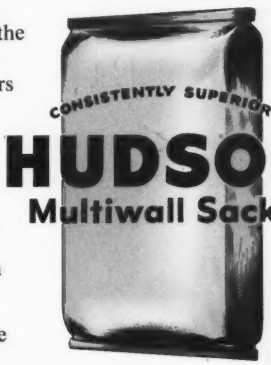
One Point is...

Enough to make the difference

Rounds may be even, yet one point can be enough to make the difference in choosing the winner of a closely contested boxing match.

With multiwall sacks, too, strong competitors are matched to serve your needs. Judge them point by point and you'll find Hudson has extra points on which you can make your decision.

For example, Hudson's 39-point inspection and test program controls production from pines to paper to give you maximum uniformity and performance. Then Hudson guarantees this performance *in writing*. You will find the extra points for Hudson make tangible savings – enough to make the difference. Send the coupon below for the book, "What to Look for in a Dependable Source of Supply." Illustrated with over 100 photographs.



EXTRA POINTS for Hudson

QUALITY CONTROL
—from tree planting to sacks, Hudson is an integrated operation.

PRODUCTION UNIFORMITY
—because *all* Hudson sacks are produced on modern equipment.

RIGID INSPECTION
—a 39-point inspection and test program.

WRITTEN GUARANTEE
—with your assurance of satisfaction in advance.

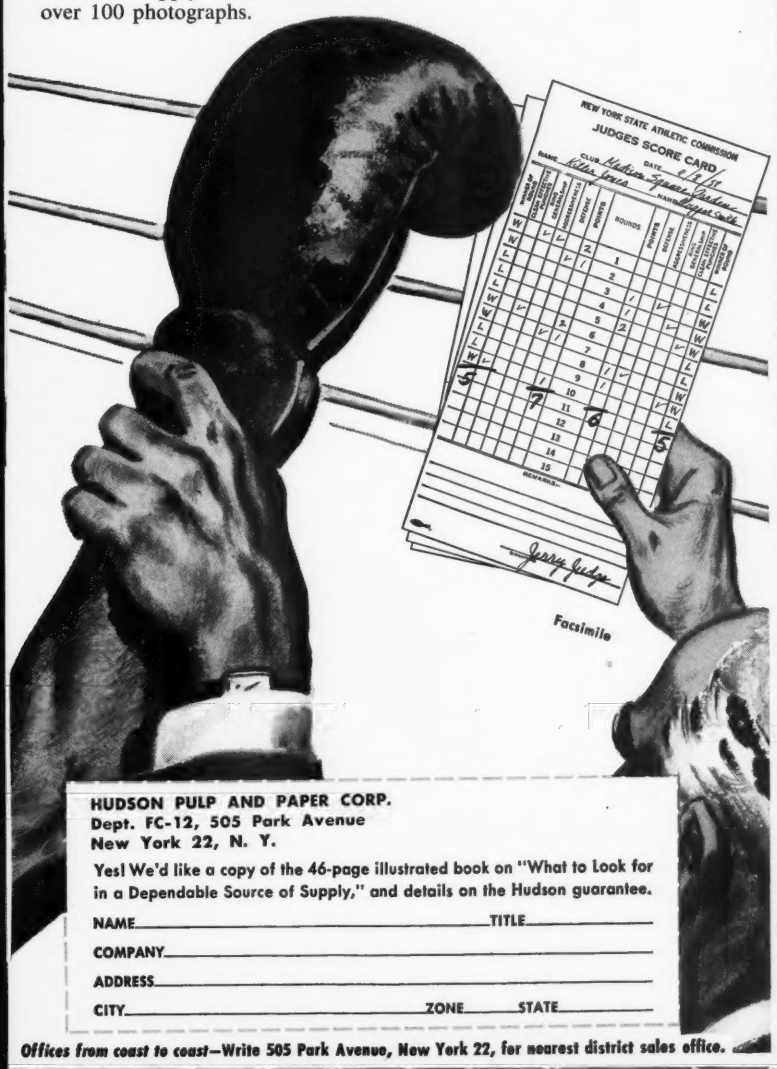
MODERN PRINTING PLANT
—for extra display appeal and increased sales for your product.

SACK DESIGN SERVICE
—by Royer & Roger, Inc., leading industrial designers, yours exclusively from Hudson.

TIME-MOTION SERVICE
—Movies of your packing operation for efficiency study.

SPECIAL SERVICES
—on delivery, storage and inventory control problems.

"PROBLEM PRODUCT" PACKAGING
—specialists to study your requirements.



HUDSON PULP AND PAPER CORP.
Dept. FC-12, 505 Park Avenue
New York 22, N. Y.

Yes! We'd like a copy of the 46-page illustrated book on "What to Look for in a Dependable Source of Supply," and details on the Hudson guarantee.

NAME_____ **TITLE**_____

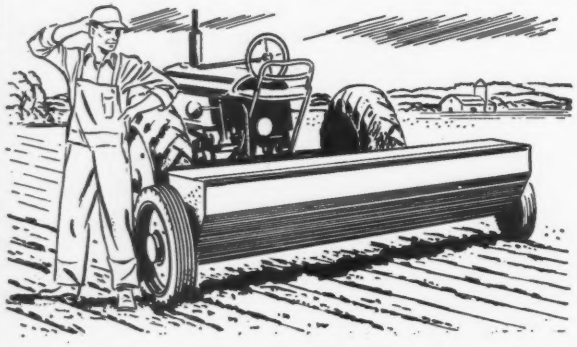
COMPANY_____

ADDRESS_____

CITY_____ **ZONE**____ **STATE**_____

***Offices from coast to coast*—Write 505 Park Avenue, New York 22, for nearest district sales office.**

down time on the production lines



COSTLY TO BOTH

Lumpy, irregular sized fertilizer clogs up drills and applicators – the farmer's production line stops, which costs him money, and probably makes him change his brand of fertilizer. To prevent this loss you make your product as uniform as possible. This also guarantees against the switching of brands. Product uniformity is important and is ***enough to make the difference.***

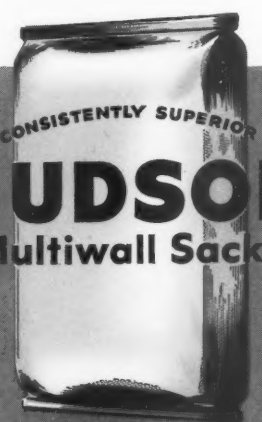
Your own production line can be kept running if your raw materials ARE ALL UNIFORM. For uninterrupted production, your multiwall sacks must be as uniform as your raw materials. Uniformity of multiwall sacks means triple savings to you. Savings in labor – Savings in machine time – Savings in materials.

Hudson Multiwall Sacks are tested and inspected 39 times during manufacture to assure you complete sack uniformity. Set up your packer and forget it! Loss from wasted material is cut . . . labor cost to clean up is less . . . packer down time is reduced. It's ***enough to make the difference.***

Uniformity is only one of the many Hudson services. Hudson controls the manufacture of its product from seedling to sack. You're sure of delivery schedules and quality of product. Remember, only Hudson gives you a written guarantee, in advance, of 100% satisfaction. It's ***enough to make the difference.***

Check over this list of 100% services that Hudson Multiwall Sacks offer you.

Mail the coupon on the other side of this page for complete information.



Sen. Richard B. Russell addresses NFA

Hole-In-One Jim Totman kisses ball.

R. P. Thomas, International Min. & Chem., with Arthur A. Schultz, Reading Bone Fertilizer Works.

NFA Seeks New Fertilizer Approach

Warren Huff, Ashcraft-Wilkinson, George Tripp Jr. and Gordon Cunningham, of Tennessee Corp.

George V. Taylor, Spencer Chemical Co., pays his bill at the Biltmore as the NFA Southern Convention comes to a close.

General view of the dining room in the hotel for the annual association banquet. H. H. McIver, Charlestown, S. C., takes a seat.

By Sam Lewis Veitch
Publisher

IT'S getting to be almost a foregone conclusion these days to report a new attendance record after a meeting of any of the major trade organizations in the fertilizer or pesticide industry.

The 27th annual Southern Convention of the National Fertilizer Association in Atlanta last month was no exception.

Good Attendance, Good Weather

The overflow attendance at the convention Nov. 16–18 was one of the reasons for its success (one observer likened the lobby of the Biltmore to a sardine can with a few too many sardines) and the idyllic Indian Summer was another.

The weather and the big registration at the meeting combined to make it a really fine social get-together, highlighted by Jim Totman's amazing hole-in-one on the nearby golf course.

But the NFA staff's well-planned program and the underlying theme of how to encourage more widespread adoption of recommended fertilizer practices was the key factor that set the Southern convention off as one of the most successful in many years.

The five major speakers at the two-day session were well chosen to provide an insight on all phases of this convention theme.

Leading Authorities Speak

Heading the list were such authorities as Sen. Richard B. Russell (D-Ga.) and the USDA Extension Director C. M. Ferguson.

Ferguson, however, was unable to address the meeting because of illness.

Supplementing their remarks were the talks by the NFA's own vice president, W. R. Allstetter, County Agent Raymond Rosson, of Jonesboro, Tenn. and J. Roger Deas, of American Can Co., an authority on selling.

Perhaps Ferguson is the key man in the fertilizer industry's attempt to educate farmers to use fertilizers


1


2


3


4


5


6


7


8


9


10


11


12


13


14


15

in greater quantities and more efficiently.

The extension head, in an address prepared for the convention, told the delegates that farm leadership today is looking to extension for an expansion and intensification of its efforts and for a vigorous redirection of its program.

"Fundamentally," the speech continued, "the job of the Extension Service is to speed up the application of research. Extension is proposing to do this by consolidating in a practical way all the essential elements of research into one unified approach on each farm.

"The objective of such an approach is to put a sound economic base under the farm by reducing costs through increased efficiency, the conservation and development of our agricultural resources through the improvement in quality of farm products to meet consumer demand and expanding our educational program in the field of marketing and utilization."

Ferguson's speech went on to say that from the days of Dr. Seaman A. Knapp down to the present the extension concept of helping people to help themselves has proven its worth.

"Extension has a continuing faith in people," he said, "which is shown by the confidence the people have in the Extension Service."

Ferguson, in his address, praised the work of the NFA in advancing the cause of agriculture and said America "has a genius for translating research into action."

In The Photos

1. **J. Franic Greeley, Fulton Bag, chats with C. J. Porter, of Tennessee Corp.**
2. **Mrs. W. Gedge Gayle, St. Charles, La.; Webb Brunson, Eagle Cotton Oil Co.; Mrs. Brunson, Gayle and Mrs. Henry C. Aaron, Shreveport.**
3. **Dr. John R. Taylor, Deere & Co., talks with Dr. K. D. Jacob, USDA.**
4. **C. R. Martin, Miami Fert. Co.; B. F. Sutherland, Armour & Co. and R. E. Bennett, Farm Fertilizers Inc.**
5. **Biltmore official makes sure NFA conducts meetings on time by setting clock. It reminded raconteur Raoul Allstetter of story about a factory official who set his watch every day by the clock on town hall. City fathers, all the while, were setting the timepiece by the fellow's factory whistle.**
6. **Front: Louis Ware, International Min. & Chem.; Senator Russell; Rear: NFA President Russell Coleman, J. Roger Deas and Ray King, of Georgia Fertilizer Company.**
7. **Louis Ware, E. A. Geoghegan, Southern Cotton Oil, Raymond Rosson.**
8. **John P. Burrows, International Min. & Chem.; Hole-In-One Totman, Lee Turner, International Paper, and William Coppinger, Bemis Bro. Bag.**
9. **Russell Coleman and William S. Ritnour, of NFA, talk with James A. Naftel, center, Pac. Coast Borax.**
10. **Alex H. Vann, Suburban Farm Service and John Sanford Jr., Armour, talk with E. W. Harvey and George W. Suggs, of Nitrogen Division.**
11. **Carl F. Eborn, and Rees F. Fraser, Ashcraft-Wilkinson, talk with Bill Pritchett Jr., Southern Fert.**
12. **Hugh Latimer, Supreme Fert. Co.; M. G. Field, Meridian Fert. Factory; and Louis J. Even, of Fulton Bag.**
13. **C. Earl Gettinger, Woodward & Dickerson, P. M. Shuey, Shuey & Co.**
14. **R. E. Burke, left, and Frank Keenen, right, DuPont, talk with J. C. Watt and Harry Moore, Armour.**
15. **Cecil B. Martin and A. A. Green, of Jackson Fertilizer Company.**

History of Farming

Senator Russell, in considering the subject "What's Ahead for the American Farmer," traced the history of American farming, the development of scientific practices, the decrease in acreage and farm population and the rise of fertilizers as stimulants to crop growth.

He said that while only 15 per cent of the country's population lives on the farm, nearly 45 per cent of the nation's gainfully employed depends directly or indirectly on agricultural activities and related endeavors.

Discussing various proposals to help farmers in their income struggle, the Georgia senator declared that "the law providing 90 per cent supports for the basic commodities will entail no losses whatever to the American taxpayers if it is properly administered."

Three Predictions

Looking to the future, he made these predictions:

1. The next Congress will maintain the Agricultural Conservation Program at about the same level it is at today.

2. The next Congress will extend the existing farm legislation, as it relates to basic commodities, unless some adequate two-price system is brought forward.

3. That the country probably never will be able to have a program that will guarantee a 90 per cent support program for all the perishable commodities.

"We must continue our campaign," he said, "to impress upon the American people the fundamental truth that we cannot have long-sustained national prosperity in the midst of a farm depression or from the bankruptcy of many of our farmers."

A down-to-earth look at fertilizer utilization was provided by County Agent Rossen, who stressed the importance of using fertilizers for grasslands.

Accent on Grass

"Our farmers look to the future and consider the land and its management, now as never before, in terms of grass. For around grass, farmers can organize general crop production so as to promote efficient practices that lead to permanency in agriculture."

He said the grassland economy of his county not only looks good, it is paying off.

"The businessmen on Main Street," he added, "have learned that well fertilized sods are good for business."

Allstetter, who has long studied the dollars-and-cents approach of fertilization, gave an excellent summary of the financial advantages of using plant nutrients with these three points:

1. The average farmer, who follows college recommendations on fertilizer use and other sound farming practices can make spectacular increases in his profit per acre, often doubling or tripling his income.

2. The proper use of fertilizer cuts the farmer's unit cost of production. Usually the farmer can maintain or even increase his net income.

3. The use of fertilizers to boost per acre profits and to cut costs of production does not necessarily mean more total output. Low cost production means that the average farmer can maintain his income on fewer planted acres—even from less total production. In fact, low cost production secured by the use of ample amounts of fertilizer appears to be the only way farmers

(Continued on page 69)

The market for **CHEMICAL FERTILIZERS** *grows bigger... and bigger...*

In Wisconsin where the average yield is about 60 bushels of corn per acre, 162 farmers, following a fertilizer prescription provided by the Soils Department of the University of Wisconsin in 1952, averaged 124 bushels per acre, some obtaining 150 bushels or more. Other crops would respond in the same way.

When farmers learn that a dollar invested in fertilizer brings a three dollar return, they will find a way to buy a lot of fertilizer.

More yield per acre will provide the food for the country's increasing population.

Plan now for tomorrow's market with Chemico . . . the leading designer of plants for the production of

- **AMMONIA**
- **UREA**
- **PHOSPHORIC ACID**
- **HIGH STRENGTH PHOSPHATIC FERTILIZERS**
- **NITROGENOUS FERTILIZERS**

as farmers learn it pays to fertilize heavily

CHEMICAL CONSTRUCTION CORPORATION

A UNIT OF AMERICAN CYANAMID COMPANY

488 MADISON AVENUE, NEW YORK 22, N. Y.

CABLES: CHEMICONST, NEW YORK

TECHNICAL REPRESENTATIVES: CYANAMID PRODUCTS LTD., LONDON • CHEMICAL CONSTRUCTION (INTER-AMERICAN) LTD., TORONTO • SOUTH AFRICAN CYANAMID (PTY) LTD., JOHANNESBURG

CHEMICO CHEMICAL CONSTRUCTION CORP.

Chemico plants are profitable investments

CC-353

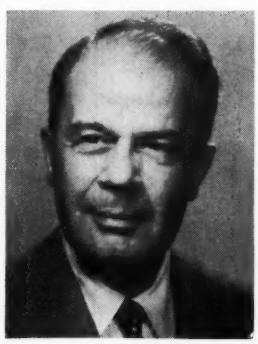
Selective Herbicide for grass control:

Dow's Dalapon

BIG NEWS just at press time was received this month on an important new herbicide being tested by Dow Chemical Co.

The material is a new selective grass control chemical called dalapon.

It was described by J. W. Britton at the First Annual National Weed Control Conference in Kansas City Dec. 10.



J. W. Britton

Britton is manager of agricultural chemicals for Dow, at the Midland, Mich., headquarters.

Farm use of dalapon is expected by Dow, Britton stated, "depending on recommendations of public research agencies, including state colleges and experiment stations."

'Effective and Selective'

"Preliminary studies have shown us that we have here a very selective material," Britton reported. He said dalapon "is both effective and selective."

Resembling the action of 2, 4-D on broad leaved plants, dalapon is readily absorbed through the vegetative parts of the grass plant, translocated and carried throughout the plant.

Properties of the new chemical have been reported in professional papers by Dow Agricultural Research scientists based on several years' study in company laboratories and at experiment stations.

The common name dalapon was coined to refer to the active material, which is alpha, alpha-dichloropropionic acid. Methods of formulating the substance for practical application are being studied, according to Britton.

Also Controls Growth

Dalapon also can act as a growth regulator, representatives at the weed conference were told.

"We know a great many of its practical results, but the ways it works inside the grass plant to bring these about are not completely understood," Britton explained.

He went on to say that Dow felt that any material with such pronounced activity should be thoroughly investigated under a wide range of conditions before it is released for general use.

Properly applied, he said, it may considerably extend practical control of monocotyledonous plants including grasses, reeds, cattails and similar species.

Not for Farmers Yet

Until necessary research has been completed to permit judicious recommendations for farm use, it is expected that principal users will be railroads and similar industries which do not have the special problems farmers face in using a new farm chemical.

Britton added, however, that certain farm uses for the new herbicide might be possible by 1955.

Among the grasses which have been controlled by experimental application of dalapon at practical rates are Johnson grass, Bermuda grass, Para grass, bluegrass, quack-grass, orchard grass, crab grass and foxtail.

Also controlled were cattail and the giant reed, Phragmites, found in coastal areas. Of importance to agriculture is the finding that dalapon shows promise for selective control of annual grasses in some broadleaved crops.

Replacement for TCA?

Britton was asked whether dalapon is expected to displace TCA, which has been used as a grass killer for many years with increasing success.

He indicated, in replying, that TCA exhibits a number of useful properties which dalapon has not yet been found to possess. Sodium TCA definitely will continue to be used, he added.

Delegates from all parts of the country interested in weed control and the chemicals which are effective in doing that job attended the first national session. ◆

Attendance High At AAI Convention in Memphis

MORE than 500 representatives of the anhydrous ammonia industry heard latest news on the subject last month at the Third Annual Agricultural Ammonia Institute convention.

The meeting was held in the Chase Hotel, St. Louis, Nov. 16–18.

General theme of the convention was how to get greater quantities of NH_3 to the nation's farmers at the time they need it for direct application to farm crops.

Five important addresses were delivered at the convention by leaders in the field.

Talk By Bown

They included the talk by C. J. Bown, sales manager of Grace Chemical Co., Memphis, Tenn., included in its entirety with this article.

Jeff I. Davis, president of AAI, in his annual report stated that a further drop in agricultural commodity prices is "most improbable."

"I believe they may rise slightly," he added. Davis said he also believed the organization has a real opportunity to push the sale of ammonia and "to preach the gospel of high fertilization."

Better methods of handling ammonia and improved equipment for application were forecast by Davis, resulting in great savings to farmers.

Dispensing NH_3

John D. Selim, research coordinator at the Weatherhead Co., reported on the problems encountered in the controlled dispensing of NH_3. "Selling" was the topic of a talk by Paul Cory, sales manager of Moorman Manufacturing Co., Quincy, Ill.

Final speaker on the diversified program was M. L. Trotter, of Columbia, S. C., who aired the problems involved in organizational management.

Two Panels

Also highlighting the program were panel discussions on safety and program development.

Allen Brown, of Ed Nelson Inc., moderated the safety panel, which included M. L. Blair, chief inspector, Arkansas; Norman LeBlanc, Henry Valve Co.; E. W. Thomas, Farm Service Co. and Raymond Engel, Schrock Fertilizer Service.

Engel, in his portion of the panel discussion, called for adoption of the slogan, "Don't Learn Safety By Accident," and emphasized that industry must not only be able to take care of emergencies, but first must prevent them.

The program development panel was moderated by Wayne Peck, Phillips Chemical Co. Participants included Fred Douglas, Suburban Farm Service; R. L. Tilton, Edward J. Funk & Sons; Charles Bourg, PV-82, Nebraska and Gen. Ralph H. Wooten, Mid-South Chemical Co.

New Officers

Thomas was elected president of AAI, along with this slate of officers: Tilton, first vice president; Tully Talbot, Chemco, second vice president; Hampton Pugh, Pugh Gin & Fertilizer Co., secretary and Wooten, treasurer.

The institute selected New Orleans as the site for next year's meeting and Kansas City, Mo. for its 1955 convention. Dates have not yet been set for the meetings, but they are expected to be held in November or December.

C. J. Bown

By C. J. Bown

Grace Chemical Co.

WE all know that agricultural ammonia has grown from nothing to a volume of 250,000 tons this year and that it is expected to reach 500,000 tons by 1956. There is no doubt that this is a remarkably strong trend towards the use and acceptance of agricultural ammonia.

We also know that a balanced fertilizer program is necessary for the most profitable production of crops. Within the framework of this program agricultural ammonia has firmly established its position on crops such as corn and cotton. It shows much promise of providing similar benefits for other crops and in time should gain a preferred place for use on some of them. It is equivalent to other sources of nitrogen for all crops in most situations.

Best Conditions

In general, it appears that agricultural ammonia will be most advantageous if one or more of the following conditions exists:

1. For crops requiring fairly high levels of nitrogen for optimum yields, such as corn.

2. On soils where the other plant nutrients are adequate and only nitrogen is required—like the Mississippi Delta.

3. For farmers having medium to large acreages.

4. For nitrogen sidedressing operations.

5. For special application

Agricultural Ammonia

It Keeps Going Up

methods such as in flood irrigation.

6. On crops which prefer the ammoniacal form of nitrogen, such as rice.

7. For fall application for spring crops.

There are some places where agricultural ammonia will also not work out satisfactorily such as:

1. In fields where conditions prohibit the use of ammonia application, such as tight clays and steep or stony land.

2. Where the application equipment will harm or destroy part of the crop.

The range of use for agricultural ammonia has broadened considerably in the past few years. It should continue to do so as our educational programs begin to take effect in areas which previously have had very little or no ammonia available for use.

Industry Trends

Trends in the agricultural ammonia industry have been the direct result of the problems faced by the producers and distributors of anhydrous ammonia and the manufacturers of equipment and accessories for its use.

The experimental data obtained by those investigating the application of ammonia also have directly affected the growth of our industry and the direction of this growth.

In view of the phenomenal growth experienced by the agricultural ammonia industry, it cannot be denied that these problems have been more than just partially solved or that considerable favorable experimental data for the application of agricultural ammonia have been obtained.

However, as you all know, we still have our problems in distribution. We need better equipment, and we need more experimental and field data.

Since the majority of us here is concerned with the marketing of agricultural ammonia either as producers or as distributors, let's look into this segment of our industry first. In general, we know that our marketing is not satisfactory unless it meets with the approval of our ultimate consumer—the farmer.

Therefore, the most important link in this chain is the man who sells the farmer—that's the distributor and he's right on the firing line at all times. The producers serve the distributor and provide what assistance they can to keep things going properly. As things stand now—that is the most accepted distribution pattern in the agricultural ammonia industry.

Different Functions

Now because the producer and the distributor have somewhat different functions in the marketing pattern, it's understandable that they each have a different outlook and different problems to solve, even though their overall objective is the same and they cooperate with one another to solve their problems.

Let's look at the producer's picture first because this is the beginning link in our marketing chain. The growth of the agricultural ammonia industry is definitely of major interest to the majority of ammonia producers.

As we all know, anhydrous ammonia is produced on a steady, year-round basis. The seasonal-use pattern of agricultural ammonia and necessary commitments to other industries has limited the amount of material any producer could sell to the agricultural ammonia industry. In addition, experience has shown that distributor storage is the key to sound sales policies. This means that contracts for ammonia have been available predominantly on the basis of storage which the distributor either owns outright, has a partial interest in, or controls by lease. Storage is the first thing a producer looks at.

The next thing a producer generally looks for is experience in agriculture, preferably in some phase of marketing, and proven business ability. Agricultural ammonia is a profitable full-time business and not a "get rich quick deal." It is to all of our advantage to have its expansion based on sound business management.

Sales Methods

Common sense demands that producers attempt to sell the bulk of their agricultural ammonia in areas where they can hope to hold the business against competition

(Continued on page 71)

MONTANSALPETER

AMMONIUM SULPHATE NITRATE

26% NITROGEN

supplies the 2 key forms of nitrogen

Contains 6½% nitrate nitrogen — quick acting for early, vigorous growth. Contains 19½% ammonia nitrogen — slower acting for sustained growth through to harvest time.

easy to use

Pelletized and properly sized for flow. Easy to handle, ready to use for top dressing, side dressing and irrigation.

now available

F.O.B. all regular Atlantic and Gulf ports, shipped to the trade in even-weight bags. Write us today for a sample and further information.

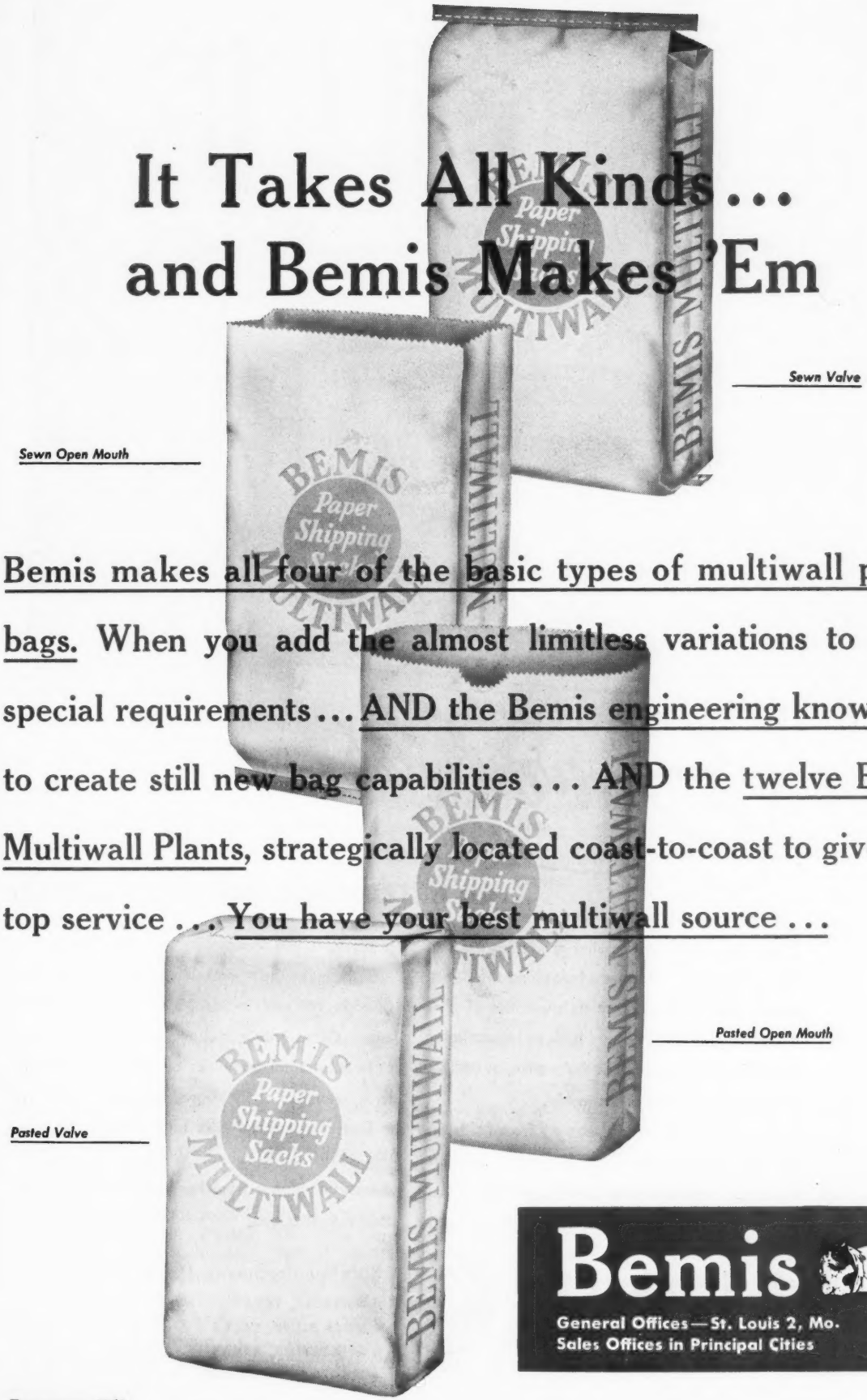
Sole Distributors for
RUHR-STICKSTOFF AKTIENGESELLSCHAFT
Bochum, Germany

H. J. BAKER & BRO.

established 1850

600 Fifth Ave., New York 20, N. Y.
Branch Offices:
Maryland Trust Bldg., Baltimore, Md.
208 South LaSalle St., Chicago, Ill.
Savannah Bank & Trust Co. Bldg., Savannah, Ga.
501 Jackson St., Tampa, Fla.

It Takes All Kinds... and Bemis Makes 'Em

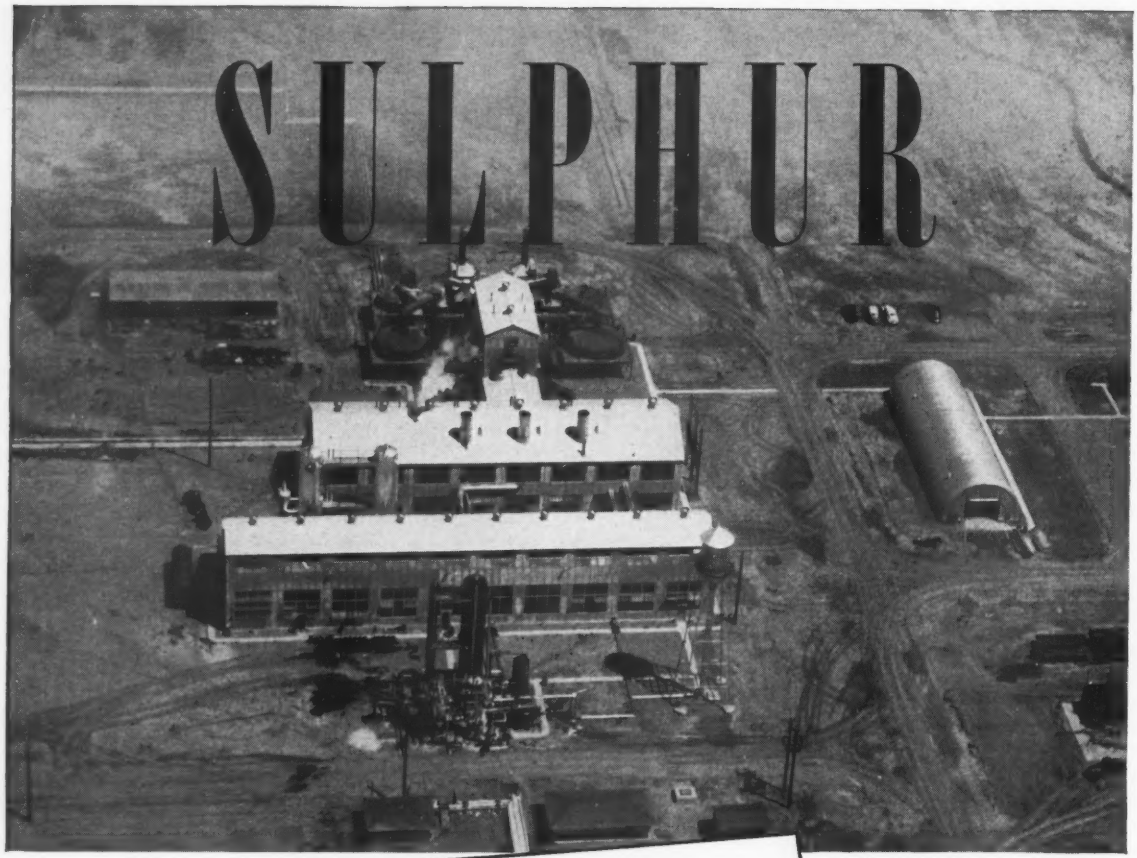


Bemis makes all four of the basic types of multiwall paper bags. When you add the almost limitless variations to meet special requirements... AND the Bemis engineering know-how to create still new bag capabilities ... AND the twelve Bemis Multiwall Plants, strategically located coast-to-coast to give you top service ... You have your best multiwall source ...

Bemis

BEMIS BRO BAG COMPANY

General Offices—St. Louis 2, Mo.
Sales Offices in Principal Cities



Sour Gas (H_2S) Sulphur Recovery Plant, Worland, Wyoming.

Sour Gas...

...an increasingly important source

The largest elemental sulphur producing area in the world today is a narrow belt along the Coast of the Gulf of Mexico. Large quantities of elemental sulphur lie in natural beds in Japan, Italy, the Andes Mountains of South America, as well as many other sections of the world.

Most of the natural gas coming from fields on the East slope of the Rocky Mountains contains hydrogen sulphide rendering the gas "sour." The recovery of the sulphur from this gas, thereby purifying it, is a feat of chemical engineering.

Both metallurgy and chemistry combine in Canada, Norway, Sweden, Spain, Portugal, Germany, Great Britain, Holland and Egypt to produce substantial quantities of elemental sulphur from sulphides of hydrogen, iron and oil shale.

This company has the largest single unit in the world at Worland, Wyoming, recovering elemental sulphur from hydrogen sulphide contained in sour gas.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Sulphur Producing Units

- **NEWGULF, TEXAS**
- **MOSS BLUFF, TEXAS**
- **SPINDLETOP, TEXAS**
- **WORLAND, WYOMING**

CFA Elects Jones At 30th Convention

BEVERLY H. JONES, president of Sunland Industries, Fresno, Cal., was elected president of the California Fertilizer Association last month at the 30th annual meeting of the West Coast group.

Jones, long an active member of the association, was named to the top position at the convention in Carmel-by-the-Sea Nov. 9 and 10.

Serving under Jones for the coming year are the following officers: William E. Snyder, Wilbur-Ellis Co., vice president; Jack Baker, Bandini Fertilizer Co., Los Angeles, secretary and treasurer and Sidney H. Bierly, San Marino, executive secretary and manager.

Bierly handles the widespread publicity program of the association, which not only informs the press of the activities of the C.F.A. but issues regular releases telling how farmers can up their profits by using fertilizers wisely.

Attendance High

In attendance at the picturesque California seaside site were 375 members from California and surrounding states.

They heard timely talks on the current status of the fertilizer industry and the job ahead for its members from top-flight leaders in the field. The speakers included Dr. William A. Albrecht, chairman of the Department of Soils, University of Missouri; Dr. Russell Coleman, president of the National Fertilizer Association; Jesse W. Tapp, vice president of the Bank of America; Allen B. Lemmon, chief of the California Bureau of Chemistry and M. E. McCollam, American

Beverly H. Jones

Potash Institute, chairman of C.F.A.'s soil improvement committee.

New Board Members

Elected to three-year terms on the board of directors of the association were Secretary-Treasurer Baker and W. L. Dixon Jr., of Best Fertilizers Co. Jones was reelected to a similar term on the board.

Murray C. McNeil, of Swift & Company, Hayward, was elected to a short term seat on the board, succeeding Howard Houston, who resigned from the position. Houston has retired from active business.

Largely for his excellent work on the *Western Fertilizer Handbook*, Earle J. Shaw was chosen as the association's first "Man of the Year."

Shaw, who is western manager for Chilean Nitrate Sales Corporation, Los Angeles, was chosen as "the person who contributed most to the well-being and advancement of the fertilizer industry during 1953."

He was awarded a plaque for his achievement at the annual banquet of the association by past president James M. Quinn.

Quinn pointed out that Shaw was responsible for the complete coverage and fine setup of the handbook. He announced that the award will be an annual feature at future meetings of the California group.

Budgets Approved

Budgets were approved for the continuing work of the soil improvement committee of C.F.A. and for association administration.

Golf and bowling tournaments highlighted the well-planned recreation at the convention, which was held in the Golden Bough Community Playhouse.

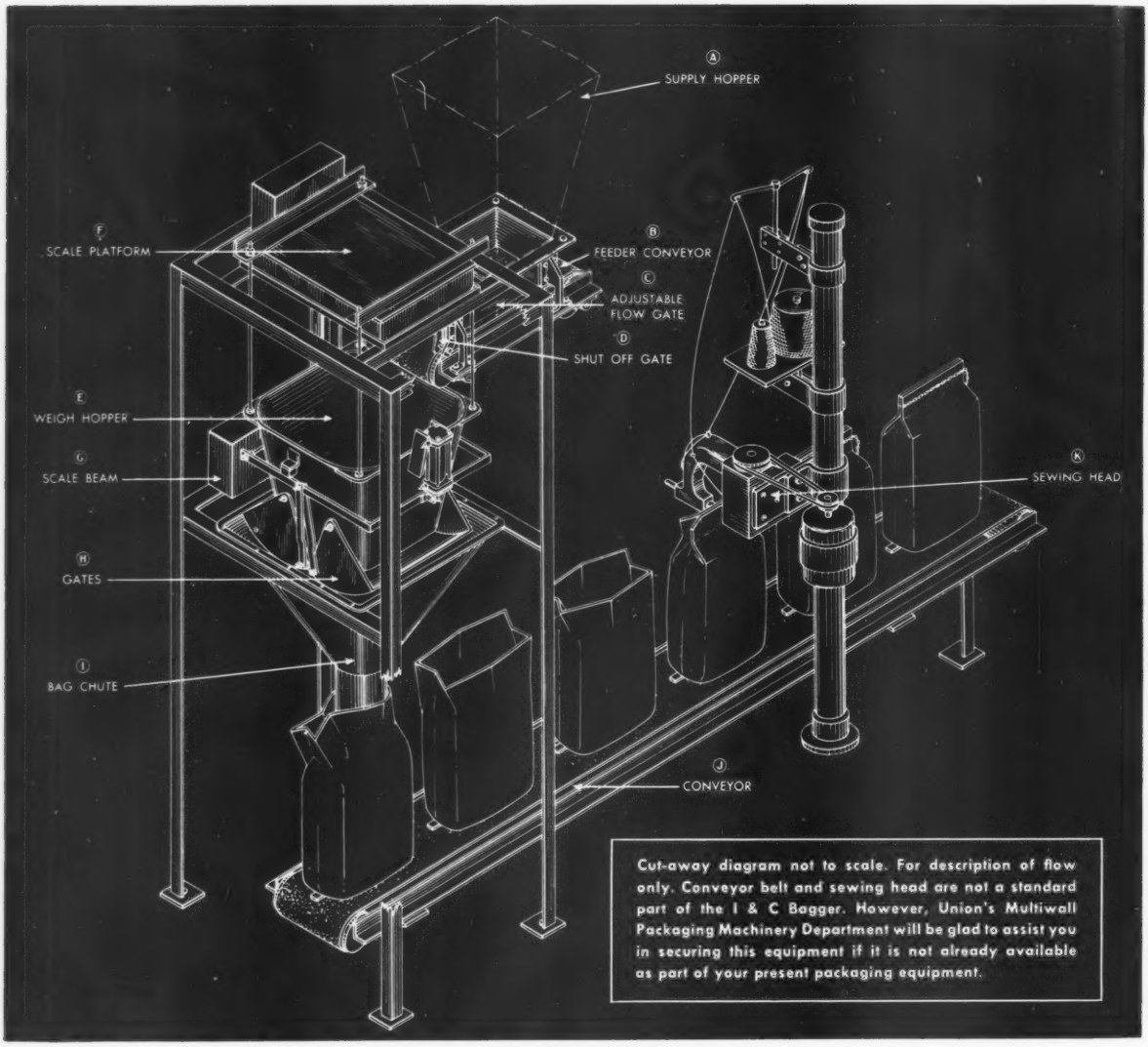
Balfour, Guthrie and Co. Ltd., was host at a reception in the country club prior to the annual banquet.

Other companies entertaining the guests and their wives were American Potash and Chemical Corp. at a cocktail party and Shell Chemical Corp., which sponsored a charcoal broiled steak dinner afterwards.

Entertainment for women included bridge, golf and a luncheon and fashion show.

President Jones announced that the 1954 convention will be held in Southern California in early November. The location will be selected at the January meeting of the new board of directors. ◆

NOW! UNION BAG OFFERS



OPERATION IS SIMPLE AND PRACTICALLY FOOL-PROOF

MATERIAL to be packaged flows from supply hopper (A) to feeder conveyor (B) which carries material to weigh hopper (E). Adjustable flow gate [located at (C) but not shown] regulates amount of material which feeder conveyor carries. This controls speed of filling cycle.

Weigh hopper (E) is suspended from scale platform (F). When material fed into weigh hopper reaches weight set on scale, the scale platform actuates scale beam located in box (G).

Scale beam sets off a system of synchronized switches which stop the feeder conveyor (B), lower a shut off gate [located at (D) but not shown] on the weigh hopper end of the feeder conveyor. This prevents any excess material from dribbling into weigh hopper, insuring accurate weight. Switch also opens gates (H) at bottom of weigh hopper. Pre-weighed material drops through filling spout (I) into bag.

With weight removed from scale, scale beam (G) now actuates synchronized switches in reverse order. Simultaneously gates (H) to weigh hopper (E) close . . . shut off gate (D) raises . . . and feeder conveyor (B) starts up and begins next filling cycle.

Bag is held on filling spout (I) by hand. As material drops quickly through spout into bag, filled bag drops onto a moving conveyor belt (J). This belt carries bag through sewing head (K) to complete packaging cycle.

I&C Bagger

Automatic Weighing and Filling Machine for Open Mouth Bags

FASTEST AUTOMATIC BAGGER

MUCH-DISCUSSED I & C BAGGER WEIGHS AND PACKS FREE-FLOWING, NON-BRIDGING MATERIALS AT SPEEDS UP TO 20 100-LB. MULTIWALLS A MINUTE!

DOLLAR FOR DOLLAR, the new Inglett & Corley Bagger, sold exclusively by Union Bag, is the most efficient and practical unit for accurate, high speed weighing and packing of free-flowing, non-bridging materials.

The I & C Bagger processes 400 to 500 tons in an eight hour day. Its filling and weighing cycle is completely automatic. Weight tolerance is close: in continuous runs, the machine can and does pack to within 4 ounces per 100 lb. bag.

LOWEST COST AUTOMATIC OPEN MOUTH BAGGER

Total cost of the I & C Bagger, with conveyor and sewing head, is more than 25 per cent below any comparable unit, and the I & C has a packing rate 25 per cent greater than any other open mouth packer.

WORKS WELL WITH ALL SIZES OF OPEN MOUTH BAGS

Changeover from one weight to another takes only the few minutes needed to change the scale beam balance. The I & C Bagger handles any open mouth bag, paper or textile, from 10 through 200 lb. weights.

NEEDS ONLY TWO OPERATORS

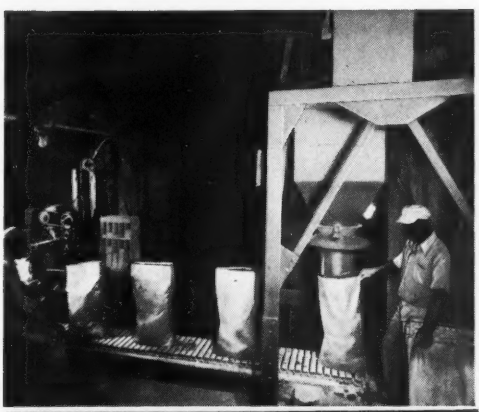
The I & C Bagger pre-weighs and packs with only one operator plus another man on the sewing equipment. Unskilled labor can be used; men require a minimum of training and supervision.

INSTALLED AND OPERATING IN TWO DAYS OR LESS!

Only 5′ x 5′ floor space, 8′ headroom over conveyor needed. Factory trained personnel will make installation, if desired, at actual cost.

DELIVERY PRIORITIES BASED ON RECEIPT OF ORDER

For quickest possible delivery, consult a Union Packaging Specialist now. Union can also advise you on plant layout and on whatever supplementary packaging machinery you may require.



HIGHER PRODUCTION . . . LOWER COSTS . . . LESS DOWN TIME . . .

Ask to see the impressive performance records the new I & C Bagger already has established in daily field use. Production jumps. Labor costs drop sharply. Down time is slashed.

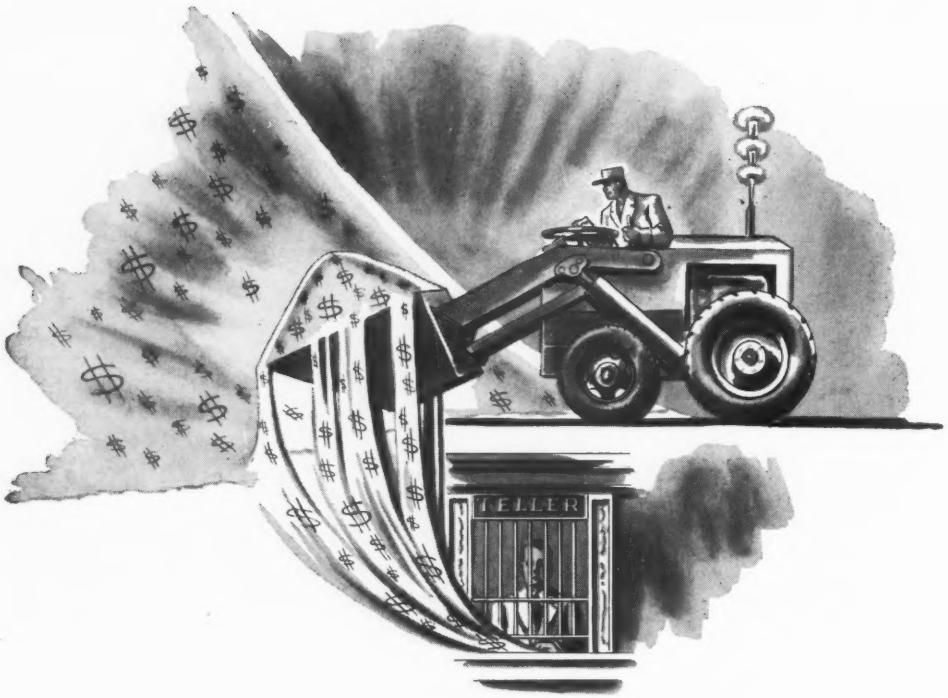
Make your own comparison with any other packer. Verify for yourself that Union's I & C Bagger is more economical initially—cheaper to install—less expensive to maintain.

Manufactured by
INGLETT & CORLEY, INC., AUGUSTA, GA.
Exclusive sales agents:

Union Bag & Paper Corporation

Woolworth Building, New York 7, N. Y.

MULTIWALL PACKAGING MACHINERY DEPARTMENT



Quality + Economy = Profits

Quality sells your mixed goods, and top quality is assured with Tennessee's SUL-FON-ATE AA9 for accelerated conditioning.

Economy—High active Tennessee SUL-FON-ATE AA9 means real savings in active ingredient unit cost.

Tennessee's **SUPER-ACID** for acidulation gives superior conditioned superphosphate, quick curing, soft piles, and high analysis.

New— For those who prefer a lower active product, Tennessee is now producing SUL-FON-ATE AA4 (40% active).

Technical service is available to help you with your problems.

ORGANIC CHEMICALS DIVISION

TENNESSEE TC CORPORATION

617-29 Grant Building, Atlanta, Georgia

Dr. C. E. Palm, national president of ESA, who addressed the eastern branch meeting.

ESA Branch Hears Pesticide Research

LATEST research on pesticides and methods of applying them was discussed last month by 300 entomologists from the Northeast section of the country.

The occasion was the annual Eastern Branch meeting of the Entomological Society of America. The group met in Philadelphia's Bellevue-Stratford Hotel Nov. 16 and 17.

Sixty papers, dealing with basic research in entomology and the economic phase of the field, were presented to members in the crowded auditorium.

The meeting was a preview of the national meeting of ESA being held Dec. 7–10 in Los Angeles.

Reports on Pesticides

Several papers of interest to the pesticide industry were delivered at the sessions, including ones on control of codling moth, accumulation of DDT in soils, baits for fly control, control of resistant houseflies and techniques in the use of insecticidal fogs and mists.

Dr. C. E. Palm, of Cornell, president of the ESA, welcomed the representatives to the convention.

He described the work of the national organization and praised the fine work being done by the Eastern Branch.

DDT Still Best for Codling Moth

"DDT still is the best insecticide for control of the codling moth, although dilan approaches it in effectiveness," was the conclusion of E. H. Glass, of the New York State Experiment Station, who delivered the talk on "Field Evaluations of Insecticides Against Codling Moth."

Glass said methoxychlor can be used against the pest, also. Most of the phosphates by themselves are not advisable for the job, he stated, but said they have been used effectively in conjunction with DDT.

Parathion, EPN, Systox and malathion all showed up poorer than DDT for controlling the moth, according to figures presented by Glass.

Discussing "A Survey of DDT Accumulation in Soils in Relation to Different Crops," J. M. Ginsburg, of the New Jersey Experiment Station, said the subject was a source of concern to scientists and that the ultimate effect of the phenomenon still is a matter of conjecture.

Some Injury to Plants

Not all plants will tolerate DDT, he said, referring to injury noted in some plants.

Object of the New Jersey research was to determine the amount of DDT already in the soil, the rate of increase and chemical methods for eliminating excess amounts of the insecticide in various soils.

Most of the data discussed by Ginsburg were gathered from tests made in orchards. They indicated that more DDT was found under the branches than under the trunks of the trees, and most of it is in the top four inches of soil.

A poor growth of tomatoes in one field that had been an orchard may have resulted from the DDT accumulation, he observed.

Spray Method Important

The method of spraying and the type of soil affect the accumulation, Ginsberg found.

"Only organo phosphates were found to be outstanding as fly baits in dairy barns," George S. Langford, University of Maryland, stated in his paper.

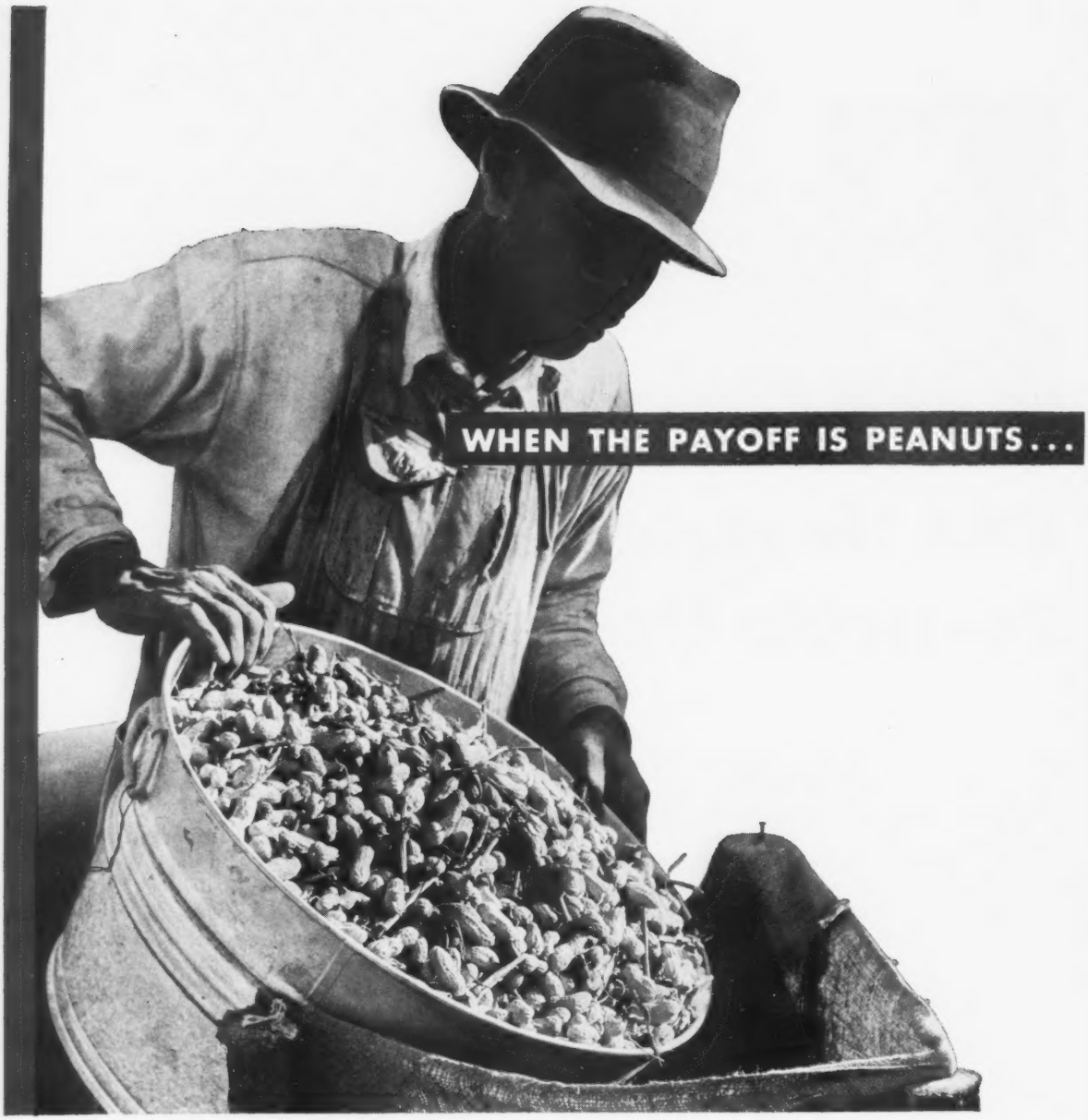
He said malathion was found to be best by many farmers and that one-half to two ounces of the chemical combined with sugar and water made an excellent bait.

Lasting quality of the various baits tested was effected by barn cleanliness, he stated.

Other figures showed that a new dialkyl phosphate, Bayer L13/59 shows promise and that while the chlorinated hydrocarbons were good in the laboratory, they failed to give good control in the barns. Parathion and TEPP were eliminated from the tests, Langford said, because of their high toxicity.

Some of the insecticides tested for control of resistant houseflies included Bayer L13/59, diazanone and malathion, it was reported at the convention. W. J. Goodwin, of Cornell University, who spoke on the subject, said all showed promise for control.

In other business, the branch approved a constitution, passed resolution recommending to Secretary of Agriculture Ezra Taft Benson that all entomological work be kept under one administrator in the USDA revisions and made tentative plans to observe the 100th anniversary of economic entomology next year. ◆



there's profit in store for the grower. Whether destined for peanut butter or peanut oil, a vast and profitable market awaits this product of the soil.

While man provided labor and knowledge to raise this crop, the soil provided the strength that makes all living things grow. For from the soil come the plant-food elements that nourish all life. As man's efforts are repaid in profits, so must the elements taken from the soil be repaid to it.

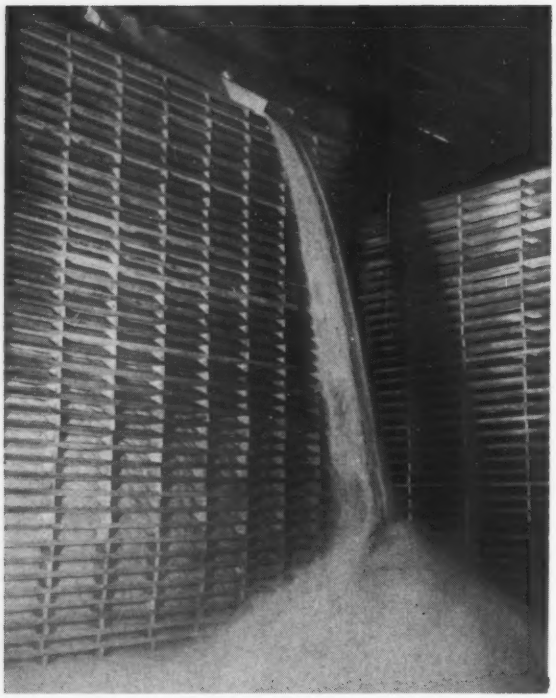
Many of the most effective soil-replenishing fertilizers contain POTASH, often Sunshine State Potash, a product of New Mexico. Potash not only nourishes the soil, it helps fortify crop resistance to disease and drought. Potash, a valuable profit-producing aid, proves a good business investment.

SUNSHINE STATE POTASH
A PRODUCT OF NEW MEXICO U.S.A.

REG. U. S. PAT. OFF.

HIGRADE MURIATE OF POTASH 62/63% K_2O
GRANULAR MURIATE OF POTASH 60% K_2O MIN.
MANURE SALTS 20% K_2O MIN.

UNITED STATES POTASH COMPANY, Incorporated, 30 Rockefeller Plaza, New York 20, N. Y.



Fertilizer being dumped from a shuttle conveyor into 1,000 ton storage bin in plant.

Here's what mechanization, modernization and automatic operation can do for you!

Fertilizer Production Up, Labor Cost Held Down

By Dick Brown
Laurinburg, N. C.

A production increase of approximately 76 per cent without a corresponding rise in labor costs has been accomplished by Dixie Guano Co., Laurinburg, N. C. with a completely new mechanized and modernized storage and shipping unit at its Laurinburg, N. C., plant.

W. M. (Bill) Campbell, Dixie general manager, estimated the new addition, with its 39,000 square feet of floor space, will enable the firm to up production from 23,000 to 40,000 tons of fertilizer a year without additional personnel. In fact, Campbell said, labor costs actually will decrease because new equipment will eliminate almost all overtime work during rush seasons.

The new plant, connected to the original and main Dixie building by a 150-foot overhead bridge housing a conveyor belt system, went into operation early in October, and can ship a maximum 800 tons of fertilizer per work day.

Fully Automatic

"Fully automatic," best describes the addition, and Campbell and other Dixie officials get enthusiastic when they point out the up-to-the-minute labor saving features incorporated in the new building. Every effort was made to mechanize the over-all operation. The result is one of the finest fertilizer plants of its type in the Southeast.

From the time the various formulas are mixed until the fertilizer is loaded, in bag or bulk, it is never touched by human hands. A hopper system is used for mixing, and one man can control the flow of ingredients from the six 10-ton bins into the two-ton mix hopper, which feeds fertilizer continuously by elevator to the main conveyor belt.

The conveyor moves the fertilizer from the main plant, across the overhead bridge, to the new addition for bulk storage, curing, aging and eventual shipment. It connects with a roof monitor, 10 feet wide and seven feet high, which houses a shuttle belt system.

This shuttle conveyor, mounted on tracks for mobility, picks up a steady stream of fertilizer flowing along the main conveyor belt, and dumps it into any one of the 14

storage bins for curing and aging, a 60- to 90-day period.

Plant Manager C. L. Durham has rigged a cleated wooden spout to discharge the bulk fertilizer from the shuttle belt into the bins. A three-man crew can move the spout and shuttle conveyor to any point in the new building in a matter of minutes.

Big Storage Area

Storage bins occupy approximately two-thirds (26,000 square feet) of the floor space of the new building with the remainder housing one standard, and one completely automatic screening, mixing and bagging unit.

Original plans called for both these units to be of the conventional semi-automatic type, but, in keeping with company policy to remain abreast of the latest developments in the industry, one already is being replaced by an ultra-modern, completely automatic weigher. This machine, Campbell pointed out, will weigh and fill 100- and 200-pound burlap or paper bags as fast as one man can keep bags under the outlet.

Curing and aging bins range in capacity from 400 to 2,000 tons. An important feature of these bins is the "bookshelf cribbing" walls, which give an open lattice-work effect. It took 80,000 pieces of 2 x 10 lumber in 16- and 20-foot lengths for this phase of the interior construction.

Walls of this type are designed to withstand a far greater pressure ratio than solid bulkheads. All pressure is downward and the 2 x 10's, laid flat, are wide enough to prevent leakage from bin to bin.

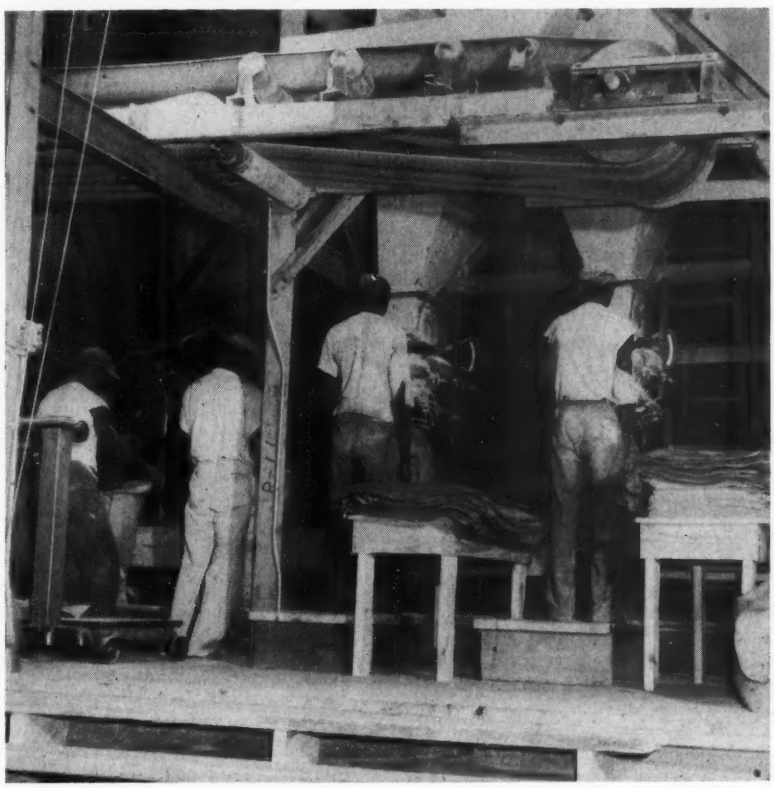
Atlanta Utility Works of Atlanta, Ga., furnished the two original bagging machines as well as the main and shuttle conveyor systems, and the feeder elevator from the main mix hopper. However, Dixie officials are dickering with another firm for the completely automatic weighing and bagging unit which will be installed soon.

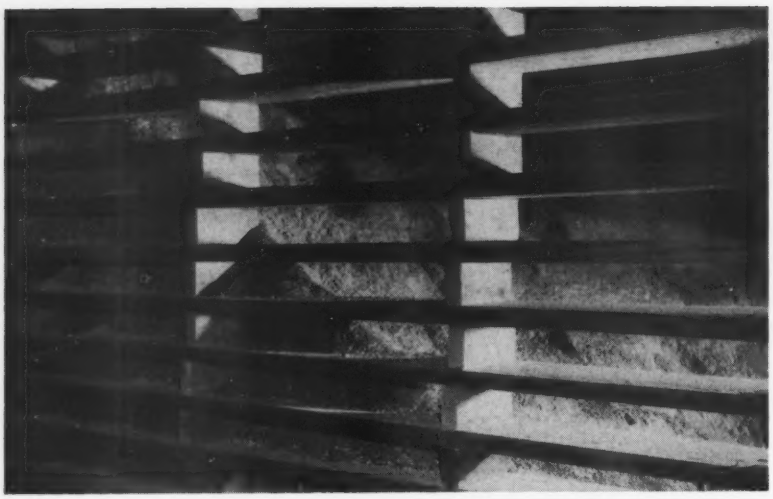
One-Man Job

Except for the springtime "rush," the new addition is a one-man operation. "One man," Campbell explained, "can handle the storage of all fertilizer during the off seasons. The key," he added, "is

Screening, bagging and weighing machines are fed by half-ton payloaders like the one illustrated above at Dixie Guano Company's fertilizer plant.

One of the two automatic weighing and bagging machines in operation. Directly overhead is a bypass conveyor belt used for bulk car loading.





Closeup of the "bookshelf cribbing" wall of one of the storage bins. This construction withstands greater pressure than solid bulkheads.

Aerial view of the Dixie plant at Laurinburg, N. C. The new addition at the right is connected to the old plant by 150-foot overhead bridge.

the conveyor system which guarantees a steady flow of fertilizer and is completely automatic except for the moving of the overhead shuttle system from bin to bin."

Maximum storage capacity of the new building is 12,000 tons, and the daily shipping output is estimated at 400 tons from each of the bagging units.

Despite the production increase of 17,000 tons, personnel requirements remain the same. Approximately 24 persons are employed on a year-round basis, with employment scheduled to hit a maximum of 60 men during the peak shipping season.

One of the two weighing and bagging units features a by-pass conveyor belt for loading bulk car shipments. These two machines are fed by half-ton Hough and Trojan pay-loaders that beat a busy path from the storage bins to the yawning intake hoppers.

For shipping purposes the new plant offers a 20-foot wide concrete loading platform, running the length of the building, and a railroad siding to accommodate six cars.

Heavy Framework

The standardized, steel-frame structure, measuring 150 x 260 feet, was produced by Luria Engineering Corp. at its Bethlehem, Pa., fabricating plant. The multi-span, rigid steel framework weighs 254 tons, and is covered with corrugated asbestos cement. The new building is fireproof throughout.

Southeastern Construction Co. of Charlotte, N. C., handled ground clearance, excavation, and foundation work. The E. W. Hurst Co. of Atlanta was in charge of field erection of the structural steel, and the covering of the structure.

Engineers for the project were Matthews and Hollis of Laurinburg.

The new plant, with its accompanying production increase, has enabled Dixie to extend its merchandising area from 50- to a 100-mile radius. In line with this expansion, the firm recently opened a branch warehouse at Statesville, N. C., which is fully equipped for bulk spreading and the application of liquid nitrogen solution, a process Dixie has pioneered in North Carolina. ◆

Floyd Smith, Buhner Fert. Co., Bill Morgan, Int. Min. & Chem. Corp. and N. T. White, Smith Ag. Chemical Co.

J. D. Stewart, Federal Chemical C and H. S. Vorhes, Virginia-Carolin

R. E. Bennett, Farm Fertilizers, Inc. gets together with Roy M. Howe of Howe, Inc. in the Sherman.

Rath Packing Co. employes Frank Nelson and C. Cahill discuss the meeting.

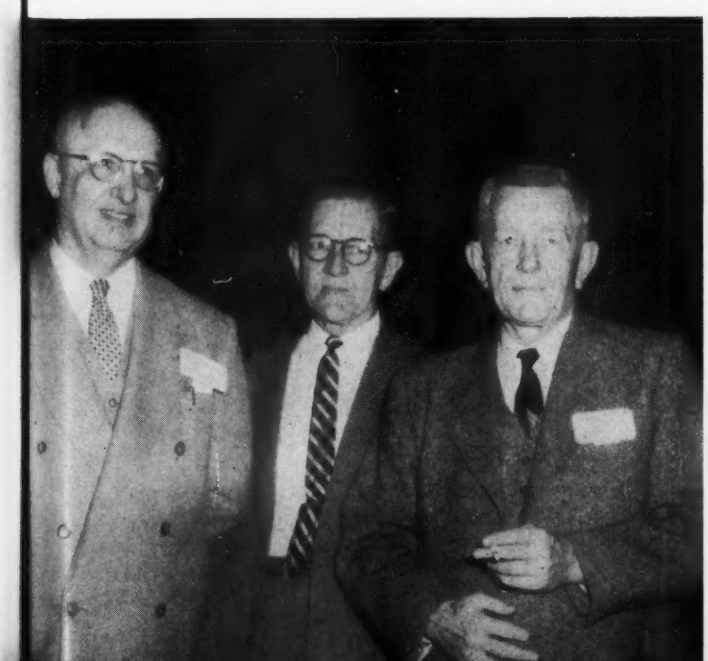
Soil Improvement Group Sets Record

RECORD-BREAKING attendance marked the 15th annual meeting of the Middle West Soil Improvement Committee, Nov. 5 in Chicago. Attending the meeting were 200 representatives of 63 regular and associate member companies and organizations, who approved reports on the committee's 1952–53 educational program and reviewed plans for new services.

H. S. Vorhes, Virginia-Carolina Chemical Co., was elected president to succeed J. D. Stewart Jr., Federal Chemical Co. W. M. Newman, Price Chemical Co., was named vice president and R. G. Fitzgerald, Smith-Douglass, treasurer. Z. N. Beers continues as executive secretary.

New directors include R. E. Bennett, Farm Fertilizers, A. R. Mullin, Ind. Farm Bureau Coop., C. R. Sparks, Buhner Fertilizer Co. and H. E. Wood, Farmers Fertilizer Co. ◆

B. Copeland, Smith-Douglass Co. and N. T. White, Smith Ag. Chem. Co.

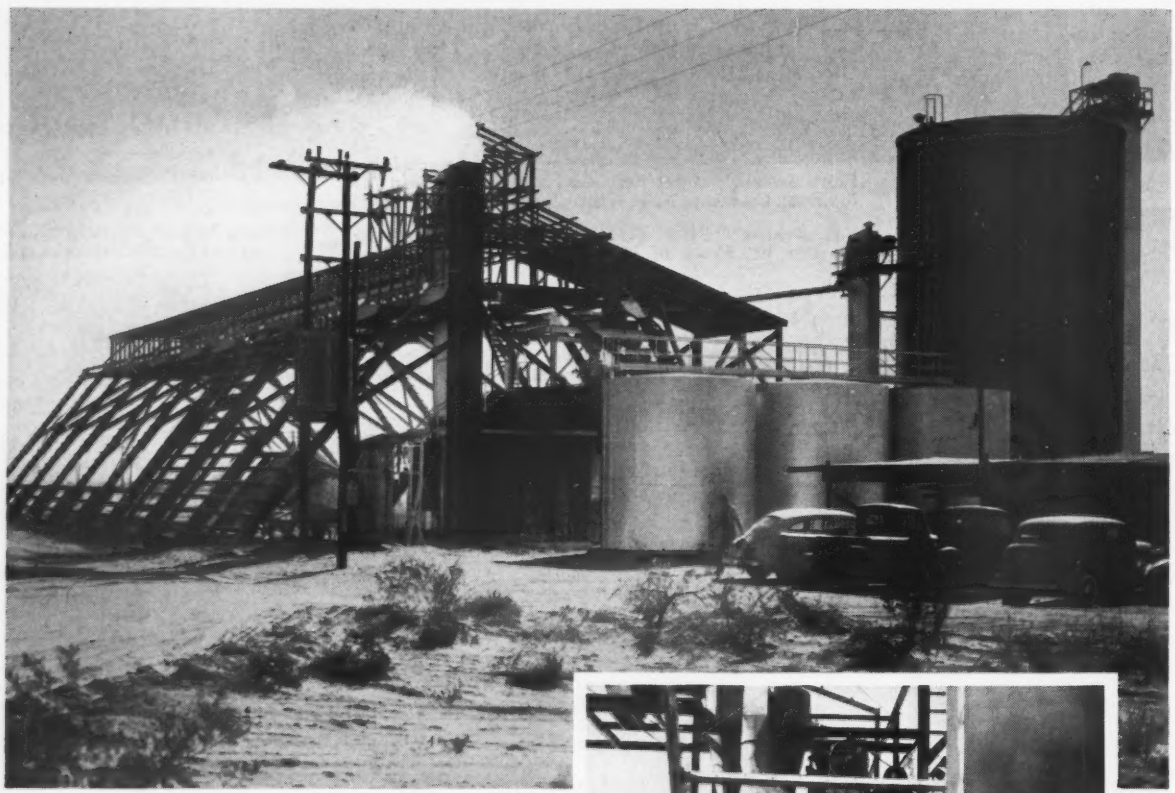


C. R. Martin, Miami Fertilizer Co., John A. Miller, Price Chemical Co. and C. E. Littlejohn, U. S. Potash Co. have a talk.

Frank Calvin, Farmers Union Central Exch., Harold Ihde, Spencer, A. H. Roffers, N. W. Coop. Mills and C. J. Byrd, Spencer.

Sturtevant Leadership in Fertilizer Granulation...

2 PLANTS COMPLETED
One Under Construction



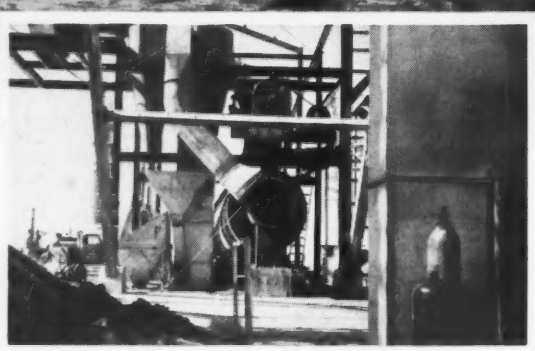
One of the new Sturtevant granulation plants located in El Paso, Texas.

Two plants completed in Texas . . . one under construction in Canada prove Sturtevant leadership in plant design, manufacture of equipment, and supervision of construction for the granulation of mixed fertilizer.

These new plants incorporate all the latest techniques and equipment *for economically* manufacturing granular fertilizer.

A recognized leader in the industry, Sturtevant Mill with its vast fertilizer manufacturing experience and know-how can effect operating economies for you.

Whether you plan to build a new plant,



Sturtevant granulator and associated equipment for manufacturing granular fertilizer.

modernize or buy new equipment, it will pay you to consult Sturtevant Mill. Our engineers, specialists in fertilizer manufacture, are available for consultation. Ask for their services, today. You will keep ahead with Sturtevant.

STURTEVANT MILL COMPANY

129 CLAYTON STREET, BOSTON 22, MASSACHUSETTS

DESIGNERS OF COMPLETE PLANTS AND MANUFACTURERS OF: CRUSHERS • GRINDERS • SEPARATORS • CONVEYORS • MECHANICAL DENS AND EXCAVATORS • ELEVATORS • MIXERS

Insecticide Conference Has Record Attendance

THE insecticide and fungicide conference held each year in Ithaca, N. Y., theoretically concerns pesticide development and usage in New York state, but because of the excellence of the papers presented at the conference it has taken on regional and even national importance.

That is the opinion of many industry leaders who attended the conference this year and it helps explain the record attendance at the 15th annual meeting, which was held in conjunction with the Sixth Annual Pesticide Application Equipment Conference.

Record Attendance

Meeting at Ithaca Nov. 10–12 were 402 agricultural and industrial representatives, representing 120 companies in the pesticide industry. That sets a record both for total attendance and diversity of representation at the meeting.

Highlight of the program, which included 50 papers, were talks on fungicidal action and the nature of systemic insecticides.

Dr. H. L. Haller, assistant chief of the USDA's BEPQ, declared that systemics "ultimately would find an important place in insect control." He outlined the work done to date with the chemicals and indicated that research has shown the continuing importance of such pest control chemicals.

He added that much research remains to be done before the systemics are perfected.

Speaking on "Studies on the Nature of Fungicidal Action," was Dr. S. E. A. McCallan, of Boyce Thompson Institute, Yonkers, N. Y.

Pesticide manufacturers from 120 companies in the eastern part of the United States consider the recent insecticide and fungicide conference very important. FARM CHEMICALS *presents a brief report on some of the more pertinent papers.*

Leading speaker on the second morning of the conference, Dr. McCallan described the work done at his research center to determine the effectiveness of chemicals to control plant diseases and recent developments in the field.

Spraying Discussed

Most of the first day at the conference was devoted to discussions on mist concentrates, low-gallonage sprayers and mist blower formulations.

Dr. H. H. Schwardt, of Cornell, pointed out that the automatic cattle sprayer did not as yet work perfectly in the control of horse flies and that improved nozzle coverage would be desirable.

Dr. J. A. Naegele stated that floral greenhouse crops now were being better protected against the danger of resistant mites by use of phosphate aerosols.

For control of onion diseases and insects furrow and seed pelleted treatments were found to be effective, according to Dr. A. G. Newhall and Dr. W. A. Rawlins. They spoke on the topic "Furrow Application for Onion Smut and Maggot Control."

Thrip Control

Their research indicated that spraying with a high pressure was necessary for thrip control. Regulator treatments pointed up increased yields, they added.

In another paper, Dr. Rawlins stated that dieldrin is effective against the potato beetle found to be resistant to DDT in part of Long Island.

Geneva Station workers presented the usual reports on insect and disease control.

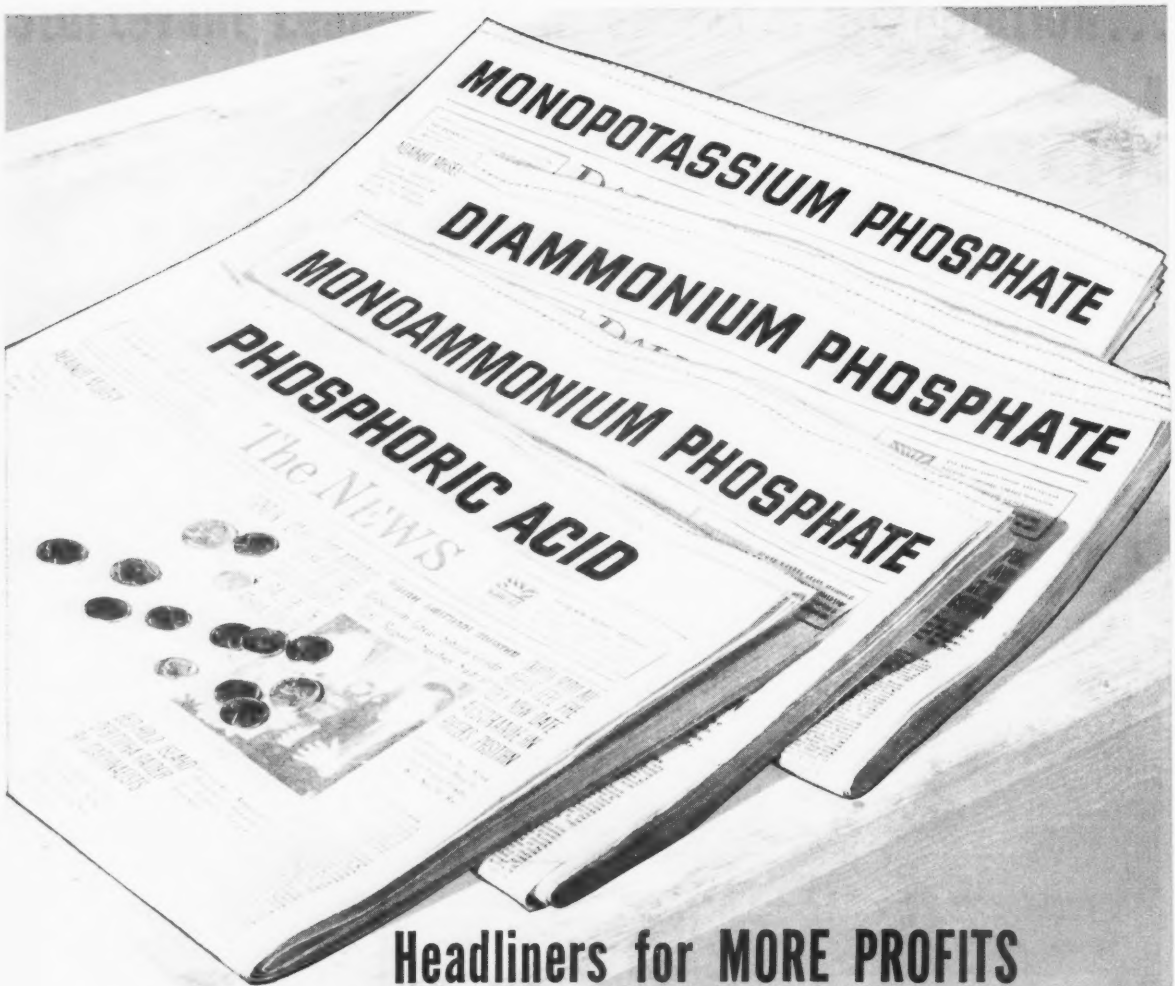
Mimeographed recommendations for 1954 on fruit and vegetable insect and disease control were made available by the Cornell specialists.

Other reports of interest to the pesticide industry included:

Other Papers

"Effects of Insecticide-Fungicide Combinations on Apples," Dr. A. A. LaPlante Jr. and Dr. W. D. Mills; "Field Results with Some New Insecticide Formulations on Apples," Dr. J. E. Dewey; "Fungicide Sprays for Cucumbers and Lima Beans," Dr. R. C. Cetas, Riverhead; "Progress Report on Insecticide Residue Studies," Dr. Dewey and Dr. A. C. Davis; "Forage Crop Insect Research and Recommendations," Dr. G. G. Gyrisco and Arthur Muka; "Report on Development of Fungicides for Fruit Disease Control," Dr. J. M. Hamilton.

The meetings were held in Bibbins Hall, G.L.F., Terrace Hill, in Ithaca. ◆



Headliners for MORE PROFITS from CONCENTRATED SOLUBLE FERTILIZERS

Of the 410,000 tons* of fertilizer produced in 1951, only 2000 tons were formulated for use in concentrated water-soluble fertilizers. The great growth potentialities of this market are obvious.

To help progressive fertilizer producers capitalize on this opportunity of expanding their markets, Monsanto produces a basic line of soluble, easily compounded nutrients. These compounds have three important advantages for formulators:

1. Assured raw material supply . . . Monsanto, the world's largest producer of elemental phosphorus, can assure its customers a steady supply of phosphate nutrients.

2. Less Bulk Storage and Handling . . . Monsanto's pure phosphates contain the highest possible concentration of active plant nutrients. This means tremendous savings in material handling, storage and shipping costs.

3. Closely controlled formulation . . . Pure basic ingredients of soluble fertilizers permit extremely close control of final analysis . . . make special formulations easy to produce for a wide number of crops.

Write today for your copy of booklet "Concentrated Water Soluble Fertilizers" to MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

**for use in non-farm market*

MONSANTO PLANT-NUTRIENT CHEMICALS

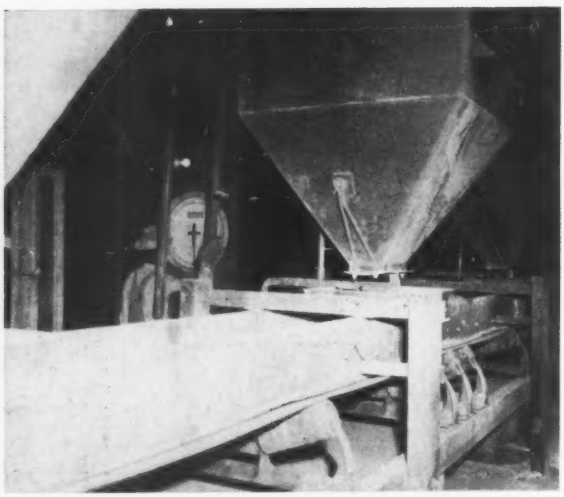
	N	P_2O_5	K_2O
DIAMMONIUM PHOSPHATE (CRYSTALS)	21.0%	53.85%	—0—
MONOAMMONIUM PHOSPHATE (CRYSTALS)	12.2%	61.61%	—0—
PHOSPHORIC ACID (75.0%) (LIQUID)	—0—	54.5%	—0—
DIPOTASSIUM PHOSPHATE (CRYSTALS)	—0—	39.9%	53.0%
MONOPOTASSIUM PHOSPHATE (CRYSTALS)	—0—	51.6%	34.2%

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto Canada Limited, Montreal.

MONSANTO CHEMICALS – PLASTICS

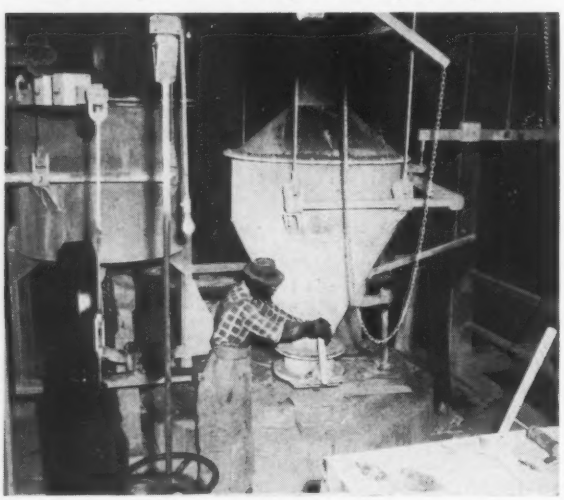
SERVING INDUSTRY... WHICH SERVES MANKIND

Electrical control panel which operates new equipment. Automatic liquid nitrogen tank in background.



Formulating hoppers where fertilizer materials are mixed, then moved to manipulating unit by conveyor.

This "wet mixer" at Virginia-Carolina's Mt. Pleasant, Tenn. plant is used to produce superphosphate.



Equipment, Methods Re

V-C Doubles P

YOU can double the output in your fertilizer plant by redesigning it and installing modern equipment and methods.

That was proved late in October at the Mt. Pleasant, Tenn., plant of Virginia-Carolina Chemical Corp.

In a guided tour for 200 customers, dealers and members of the press, V-C showed off the extensive remodeling it had completed in the fertilizer plant.

By rearranging and enlarging the interior of the old building and adding a section, the plant, now in full operation, has doubled its output.

V-C Started from Scratch

In the remodeling process, V-C started from scratch. All the old equipment was ripped out, leaving the outer walls as a shell.

Then new timbers were cut and milled especially for the building by the Carter Lumber Co., Charlestown, S. C.

The Kerrigan Steel Co. built new hoppers, elevators and a manipulator according to V-C design and suspended dials scales in connection with the manipulator were installed. This makes mixing more efficient and easier, the company states.

The new scale setup eliminated a drawback with the previous rigid scales, with which a left-handed operator had to twist around to read the dial.

A pile trimmer, designed by company engineers, was added to make storage faster and easier. The trimmer distributes mixed fertilizer to any part of a storage bin, and can be moved up and down the conveyor which delivers the fertilizer for storage.

Automatic Nitrogen Process

Davidson-Kennedy Co., of Atlanta, designed automatic liquid nitrogen process equipment, greatly modernizing the setup.

Also responsible for the increased output of the plant, which now contains 79,300 square feet of space under cover, are Hough "Payloaders."

The Payloaders are used to handle all materials in the plant. They feed a system of overhead conveyors that takes the fertilizer to storage and formulation

ods Responsible As

es Plant Output

hoppers. The Hough machines also haul fertilizer from storage to the bagging operation.

The new addition to the plant contains a Barnnon silo for phosphate dust storage, acidulating building and equipment and dust unloading canopy and platform which includes an unloading conveyor and elevator to move the materials from the cars to the silo. A three-car siding was constructed to serve the storage area.

New Super Building

As part of the modernization program a new superphosphate storage building with all new manipulating equipment was built. An acid storage tank with a capacity of 175 tons of sulfuric acid also was added during the construction.

The complete renovation was shown to the visitors to the plant at the October open house.

Highlight of the day was a series of guided tours of the plant conducted by V-C salesmen from Birmingham, Ala. and Mt. Pleasant.

On hand from the Virginia-Carolina home office in Richmond were several representatives who welcomed guests at the plant.

Bernard Brinkman, assistant sales manager of V-C's Cincinnati office and A. T. Montgomery, assistant sales manager of the Birmingham sales office, were on hand to answer questions.

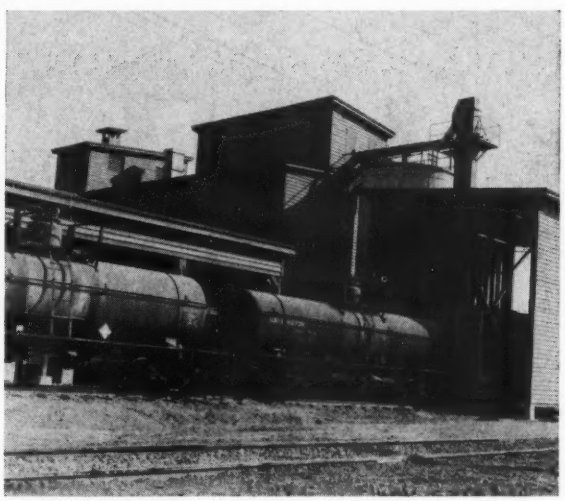
Personnel on Hand

Also supervising the tours were L. A. Sands, superintendent and Brown Simons, plant foreman at Mt. Pleasant. Charles T. Harding, general manager of the company's manufacturing department and F. C. Richter, head of V-C's engineering department, described the construction and installation of equipment, which they supervised.

A barbecue for all guests closed the day.

The Tennessee plant, with its renovation, is expected to supply more efficiently and quickly dealers in Tennessee, Kentucky, Ohio and several parts of the lower South. ◆

Fume scrubber where obnoxious fumes from the acidulating process are carried to neutralizing tank.



New portion of Mt. Pleasant fertilizer plant showing silo for phosphate rock dust storage, dust unloading platform and canopy and three-car siding.

Pile trimmer which takes fertilizer from conveyor belt and deposits it equally throughout storage bin.

Two groups combine forces to discuss

Fertilizer Application

THE accent was to be on the future at an important fertilizer application program scheduled for Chicago, December 7.

Co-sponsors of the meeting were the Power and Machinery division of the American Society of Agricultural Engineers and the National Joint Committee on Fertilizer Application.

Newest advances in fertilizers and in fertilizer application and machinery highlighted the advance program for the meeting, which also included a talk on future usage of plant foods.

Meeting place was the Edgewater Beach Hotel.

Dr. Malcolm H. McVickar

Edwin C. Kapusta

Placing Fertilizer

Papers were to be presented during the morning session by several outstanding authorities in soil science, agricultural engineering and farm management. The afternoon session was to be devoted to a panel discussion on the subject of "Placing Fertilizer for Efficient Production."

S. D. Gray, general chairman of the National Joint Committee on Fertilizer Application, was to open the morning session with a discussion of the history and objectives of the joint committee. Next on the program was Firman E. Bear, professor of agricultural chemistry, Rutgers University, whose subject was to be "New Horizons in Fertilizer Application."

What's New

Edwin C. Kapusta, chemical engineer for the National Fertilizer Association, had the topic, "New Developments in Fertilizer Materials." "New Developments in Fertilizer Machinery" was listed as the subject of a paper to be presented by C. E. Guelle, manager of seedling, potato and beet machinery sales, International Harvester Co.

A. C. Thompson, owner of Thompson's Farms, was scheduled to close the morning program with a discussion of "Fertilizer Application in Practice." George B. Nutt, Clemson Agricultural College, vice chairman of the National Joint Committee, presided at the morning session.

Panel Session

Participants in the afternoon panel discussion were to be G. A. Cumings, U. S. Department of Agriculture; Leonard Lett, National Cotton Council; H. A. Woodle, Clemson Agricultural College; Floyd W. Smith, Kansas State College and A. C. Thompson.

Kirk Fox, editor of *Successful Farming*, was to moderate the discussion. The afternoon session was to be presided over by Roy Bainer, University of California, vice chairman of the Power and Machinery division.

Malcolm H. McVickar, chief agronomist for NFA and secretary of the joint committee, announced that the meeting was open and that questions from the floor would be welcomed.

The Joint Committee on Fertilizer Application is composed of the following organizations: the American Society of Agricultural Engineers, the American Society of Agronomy, the American Society for Horticultural Science, the Farm Equipment Institute, the National Canners Association and NFA. ◆

In New York and New England here's a summary of '53 for

Fruit Insects

UNUSUAL weather conditions were the major contributing factors to increased activity of fruit insects in New York and the New England states last year.

That is the statement of the Cooperative Economic Insect Report, issued last month by the USDA's Bureau of Entomology and Plant Quarantine.

In summarizing the fruit insect conditions in the area and the various outbreaks and geographical movements of the bugs, the report listed these unusual weather conditions as contributing factors:

1. Maine—a succession of warm, dry summers during the past four or five years.

2. Massachusetts—Overabundance of rain in April and May followed by severe drought lasting into October. Extremely high temperatures in late August and early September.

3. Connecticut—drought and heat in late summer contributed to mite, codling moth and possibly apple maggot damage. Early season rains helped the plum curculio.

4. Hudson Valley—hot, dry weather favored codling moth buildup.

Some Benefit

The weather wasn't always unfavorable to pest control practices in the Northeast section, however, the report indicates.

In Vermont, for instance, heavy rains Aug. 5 and 12, coupled with a cool week between, evidently stopped a threat of a severe second brood codling moth in Addison county, and drought in the Hudson Valley was said to have helped check the apple maggot.

The Economic Insect Report also summarized new distribution records, unusual outbreaks and abnormal seasonal occurrences of fruit insects in the area.

The data should be of assistance to pesticide manufacturers in planning their marketing campaigns for the 1954 season, subject, of course, to weather conditions next spring and further reports of outbreaks.

New Distribution

New distribution last year included the cherry fruit-worm in early varieties of cultivated blueberries in Massachusetts. Connecticut entomologists noted European apple sawflies extending their range northward and eastward. In the Hudson Valley the same insect was found in several more orchards in Orange and Dutchess counties. Also in the Valley, phosphate-resistant European red mites were noted in several orchards, whereas the bug was seen in only one orchard during 1952.

In the Champlain Valley (N.Y.) and on certain raspberry crops in Connecticut, inspectors reported the presence of *Tetranychus mcdanieli* for the first time on apple and peach trees.

Increased injury from plant bugs attacking apples and codling moth injury to apples in Maine are among the unusual outbreaks reported. Other states had their troubles last year. In Vermont tent caterpillars were the worst in years and rosy aphid injury on some kinds of apples was very bad. Also in the state, two-spotted mite outbreaks were severe in a few Champlain Valley orchards.

Gypsy Moth

In Massachusetts biggest news concerned the gypsy moth, which broke out in unprecedented numbers in the Connecticut River Valley area, with heavy local outbreaks elsewhere in the state. Other outbreaks in the state included oriental fruit moth in fruit of beach plum on Cape Cod, tarnished plant bug injury to apples and two-spotted plum spider mite on peaches late in the season.

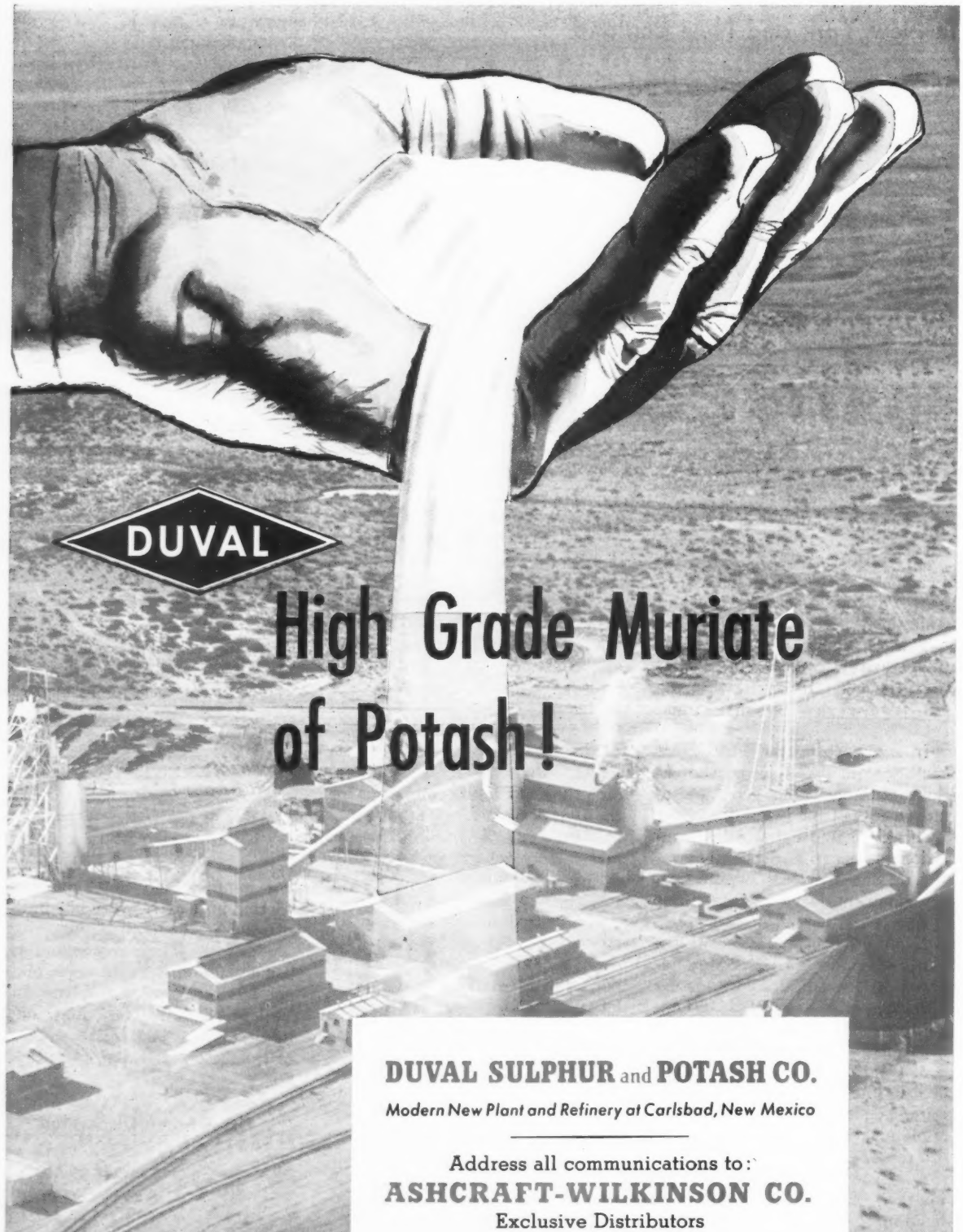
The European apple sawfly is fast becoming an economic problem in Connecticut, more severe outbreaks reported each year, while the spotted tentiform leafminer is abundant locally in some areas of the Hudson Valley. Another area where the tarnished plant bug was damaging is the Champlain Valley.

The insect pests weren't always on schedule in the Northeast last season, with these variations reported by the entomologists: Mass. —very late codling moth and red-banded leafhopper, heavy outbreaks of green aphid in mid- and late summer, red mite and two-spotted mite active very late in the season; N. H.—apple aphid; Hudson Valley—plum curculio and unusually abundant, with apple maggot less of a problem; Champlain Valley—slight increase in codling moth; R. I.—some late emergence of Japanese beetle and apple maggot.

Grapeworm Discovered

The alert work of entomologists at various ports has kept the notoriously destructive grapeworm, *polychrosis botrana* out of the country. It has been intercepted 13 times in the past few years from France, Greece, Israel, Italy and Lebanon.

Most recently it was discovered on two pounds of grapes from Spain at Boston airport, the report stated. ◆


DUVAL
High Grade Muriate of Potash!
DUVAL SULPHUR and POTASH CO.
Modern New Plant and Refinery at Carlsbad, New Mexico
Address all communications to:
ASHCRAFT-WILKINSON CO.
Exclusive Distributors
ATLANTA, GEORGIA
Cable Address ASHCRAFT
NORFOLK, VA. • CHARLESTON, S. C. • TAMPA, FLA. • JACKSON, MISS. • COLUMBUS, OHIO

How You Can Get

Free Information

On each of the two postage-paid postcards below you can request further information on four items described on this and the Industrial News section of this issue. *Fill out one quarter section for each item in which you are interested.*

12-4 GunJets

Spray guns for orchard and livestock spraying are described in a new bulletin now available from Spraying Systems Co. Identified as No. 12 and No. 14 GunJets, they are heavy duty guns for use with pressures of from 30 to 800 pounds per square inch. The GunJets are corrosion and abrasion resistant and can be handled easily according to Spraying Systems. **Code Number 12-4.**

12-5 Fertilizer Spreader

From 200 to 5,000 pounds of 80 pound material can be spread per acre in even widths of 20 to 30 feet with a Baughman KM-4 Lime or Fertilizer Spreader, according to company literature. The distributor is driven by a gasoline engine to assure constant speed desired regardless of truck speed. Other features of the KM-4 blender are described in a bulletin from Baughman Manufacturing Co. **Code Number 12-5.**

12-6 Conveyor Catalog

Jeffrey Manufacturing Co. says its 86-page belt conveyor catalog is virtually a handbook on the subject of belt conveyors. Containing information on latest designs of conveyor details and all engineering data necessary to design a belt conveyor for any application, it should be of interest to many members of the farm chemicals industry. **Code Number 12-6.**

12-7 Checkweight Scale

The new Model 100S Thayer Checkweight Scale checks and indicates weights of filled packages before they have been closed, discharges properly filled containers, signals and holds offweighs—all automatically, Thayer Scale & Engineering Corp. recently an-

Use card at right to get information on products and bulletins. For additional requests write FARM CHEMICALS on company stationery, giving appropriate Code Numbers.

12-1 Dust Hood
12-2 Vacuveyor
12-3 Diazinon
12-4 GunJets
12-5 Fertilizer Spreader
12-6 Conveyor Catalog
12-7 Checkweight Scale
12-8 Dockboard Facts
12-9 Hydrocarbon Emulsifier
12-10 Elevator Buckets
12-11 Agitating Equipment
12-12 High Lift Truck
12-13 Stuffing Boxes and Packings
12-14 Marasperses
12-15 Magnetic Separation
12-16 Mobil-Lab-Walls
12-17 Fungicide-Bactericides

FILL OUT READER SERVICE CARDS

FARM CHEMICALS Code Number
Name
Title
Company
Co. Address

FARM CHEMICALS Code Number
Name
Title
Company
Co. Address

FARM CHEMICALS Code Number
Name
Title
Company
Co. Address

FARM CHEMICALS Code Number
Name
Title
Company
Co. Address
53-12

☐ 1 Year—$3

☐ 2 Years—$5

Canada and Mexico, 1 Year—$4

Foreign, 1 Year—$5

☐ Remittance Enclosed

☐ Bill Me

☐ Bill Company 53-12

Enter my subscription to Farm Chemicals now . . .

Name
Position
Company
Type Business
Address

nounced. Information on this and other standard and custom-built Checkweighing and Package Filling Scales is available. **Code Number 12-7.**

12-8 Dockboard Facts

Specific facts on magnesium dockboards used to bridge the gap between loading docks and rail cars and highway trailers are contained in a facts file entitled "Look Into These Facts About Dockboards," prepared by Magnesium Co. of America. The file tells actual cost of makeshift plates, why dockboards should be fitted to specific needs, etc. **Code Number 12-8.**

12-9 Hydrocarbon Emulsifier

A new technical bulletin, bringing up to date information on Emcol H-50A, has just been issued by Emulsol Corp. The bulletin gives latest data on the aliphatic hydrocarbon emulsifier for use with many products including agricultural spray oils. **Code Number 12-9.**

12-10 Elevator Buckets

Detailed information on Link-Belt's complete line of cast malleable and Promal elevator buckets is contained in a new book from the company. Fifty-five standard sizes are listed with tables giving dimensions, weights and capacities. All of its buckets are smooth and seamless with reinforced well-rounded corners and can be punched for assembly on belts or chains, according to Link-Belt Co. **Code Number 12-10.**

12-11 Agitating Equipment

Diagrams, pictures, charts and other data on Nettco agitating equipment are included in a 49-page catalog from New England Tank and Tower Co. Equipment described includes agitator drives, stirrer arrangements, side drive agitators, flomix, enclosed and open bevel gear drives and agitator fittings. **Code Number 12-11.**

12-12 High Lift Truck

Big truck advantages at small truck cost are promised in a new bulletin published by Yale & Towne Manufacturing Co. Described and illustrated in the folder is the Worksaver Telescopic high lift platform truck which is available in capacities of 3000 and 4000 pounds. Drawings giving specifications and tables of dimensions also are included. **Code Number 12-12.**

12-13 Stuffing Boxes and Packings

Taber Pump Co. offers helpful hints and suggestions on proper packings for stuffing boxes and on how deep stuffing boxes should be in its new booklet, "Stuffing Box . . . The Vital Part of Any Pump." The company says the service booklet was designed to suggest solution of common difficulties in chemical processing pumping operations. **Code Number 12-13.**

12-14 Marasperses

Functions and uses of the Marasperses, which are a group of anionic dispersants, are described in a booklet issued by Marathon Corp.'s Chemical division. Physical characteristics, compatibility with wetting agents and applications and the company's technical service are among subjects discussed in the booklet. **Code Number 12-14.**

12-15 Magnetic Separation

By removing tramp iron, Dings magnets avoid downtime, save repairs on crushers, grinders, pulverizers, stokers, screens, rolls, knives and other machinery, according to a catalog from Dings Magnetic Separator Co. The catalog contains complete information on the company's line of magnetic equipment. **Code Number 12-15.**

12-16 Mobil-Lab-Walls

A unique development of Virginia Metal Products, Inc., is six-inch thick movable steel partitions for use in laboratories. Features incorporated in the Mobil-Lab-Walls include internally housed utilities, partition post and panel construction. A two-color brochure from the company with details and complete descriptions is available. **Code Number 12-16.**

12-17 Fungicide-Bactericides

Samples and information are available on Bennett Inc.'s new line of fungicide-bactericides, marketed as "C 8 Q." The company says "C 8 Q" has established its value in agricultural sprays as a preservative to prevent decomposition resulting from bacterial and fungicidal action and in preventing growth of mildew on the surface of dried material. **Code Number 12-17.**

Reader Service inquiries will be honored up to six months after date of publication of the magazine in which they appear.

FILL OUT READER SERVICE CARDS

FIRST CLASS
PERMIT No. 386
Sec. 510, P. L. & R.
Philadelphia, Pa.

BUSINESS REPLY CARD
No Postage Necessary if Mailed in the United States

Postage Will Be Paid By

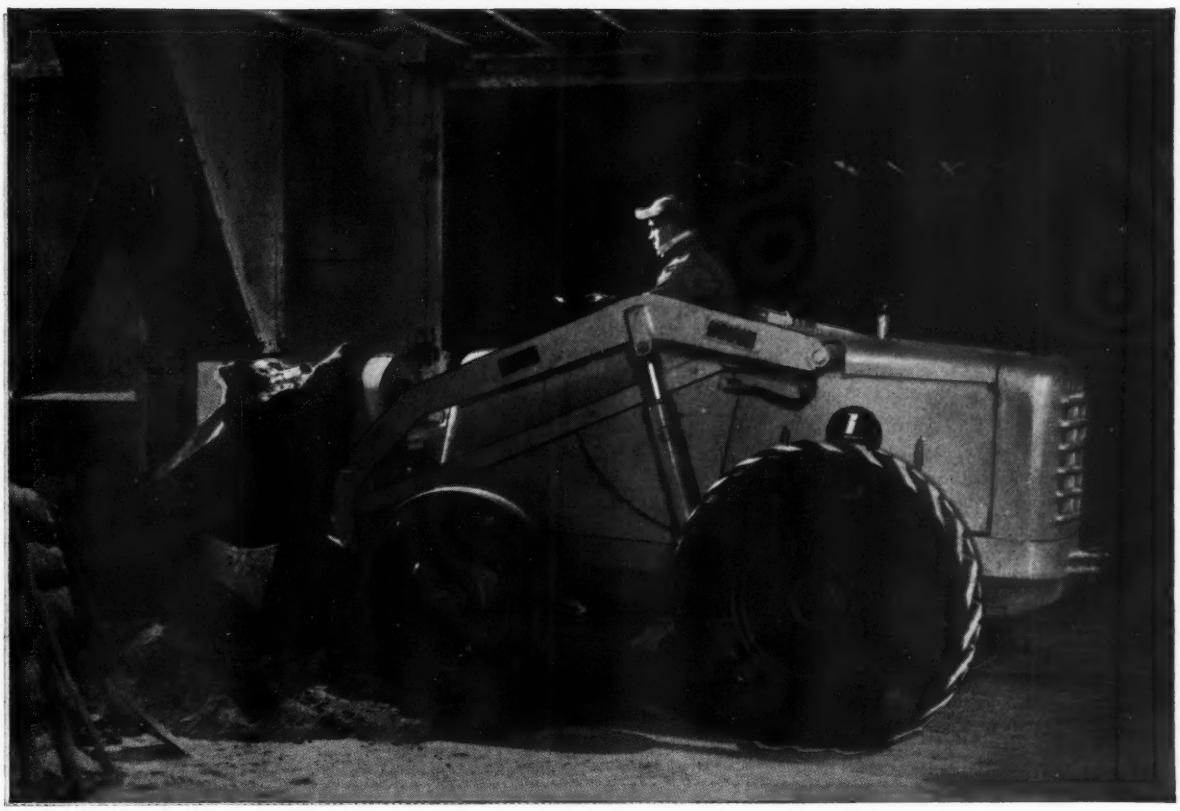
FARM CHEMICALS
317 North Broad Street
Philadelphia 7, Pa.

FIRST CLASS
PERMIT No. 386
Sec. 510, P. L. & R.
Philadelphia, Pa.

BUSINESS REPLY CARD
No Postage Necessary if Mailed in the United States

Postage Will Be Paid By

FARM CHEMICALS
317 North Broad Street
Philadelphia 7, Pa.



Cheap Rides For Raw Materials

In thousands of plants, day after day, "PAYLOADERS" are moving fertilizer, chemicals and *all* kinds of bulk materials with great savings in time and costs. Indoors and outdoors these agile tractor-shovels scoop-up, carry, unload, load, transport, stockpile, windrow and spread. They maneuver in close quarters and can travel rapidly in both directions. That's because they have ample power, short wheelbases, big pneumatic tires and multiple speeds in reverse as well as forward. "PAYLOADER" application is simple and flexible too — they can go right to work without a lot of expensive plant alteration.

It will pay *you* to find out how "PAYLOADERS" pay BIG on bulk-handling operations of all kinds.

There are eight models, ranging from the 12 cu. ft. size that will unload box cars, up to the big 90 HP 1½ cu. yd. Model HM . . . also a choice of front-wheel drive, rear-wheel drive or four-wheel drive to best fit your needs. Your "PAYLOADER" Distributor, one of 200 in the U.S. and Canada, is ready to serve you *right* with complete parts and service departments. The Frank G. Hough Co., 704 Sunnyside Ave., Libertyville, Ill.

FREE HANDBOOK

Tells how and where to look for signs of inefficient bulk materials handling . . . how to analyze, organize and set up an efficient handling system . . . plus many useful tables and data. Write for "Bulk Materials Handbook."

SAY "HUFF"

PAYLOADER®

THE FRANK G. HOUGH CO. • Since 1920

SEE PAYLOADERS at the Materials Handling Exposition — Booth 1349

Stewart Washburn (right) of NSC shows safety posters to Smith-Douglass Co. representatives W. V. Waisenen, A. J. Edmonds and W. A. Wilcox.

Panel discusses case histories at big meeting

Fertilizer Safety Group Adopts Goals at Meeting

A LARGE and enthusiastic delegation of fertilizer industry personnel interested in safety have come back from their recent meeting in Chicago with a list of important goals for the new year.

Adoption of the goals, listed on the opposite page, climaxed what was described as the most successful fertilizer safety meeting ever held.

The Fertilizer Section, meeting as part of the National Safety Council convention Oct. 19–21, capped the meeting with election of long-time safety leader Vernon S. Gornto, Smith-Douglass Co., as chairman, succeeding John E. Smith of Spencer Chemical Co.

Results of the fertilizer safety contest for September were announced at the Chicago meeting by Curtis A. Cox, assistant manager of the manufacturing department at Virginia-Carolina Chemical Corp.

They showed that Smith-Douglass Co., Baugh & Sons Co. and Wilson & Toomer Fertilizer Co. worked the most man-hours during the month with perfect records.

New vice chairman of the section for 1954 is Thomas J. Clarke, GLF Soil Building Service. Curtis A. Cox, Virginia-Carolina Chemical Corp., was elected secretary-treasurer.

In addition to hearing formal talks on the value of promoting safety in the fertilizer industry, where accident rates have been especially high, the delegates to the convention took part in spirited discussions of accident case histories, a question and answer period and a demonstration of the Cardox blasting method for loosening bulk fertilizer materials.

(*The Cardox method was described in detail by G. M. Henry, of Cardox Corp., on page 21 of the October* FARM CHEMICALS.)

In his annual report to the meet-

ing, outgoing chairman Smith said he was highly pleased with the work of the section. He said 65 companies participating in the fertilizer safety contest had maintained perfect records for the year, and reported a good response to industry questionnaires concerning safety.

Smith also praised the printing of fertilizer safety posters as one of many achievements of a very successful year.

Speakers at the two-day meeting emphasized the human as well as the dollars and cents reasons for safety in the industry.

S. L. Rankin, medical advisor for Petroleum Chemicals division of DuPont, declared safety is "a way of life."

He cited 15,000 industrial deaths in American industry last year and called on the fertilizer group to do its share of the job in reducing this number.

More Than Goggles

"Get rid of the idea that a safety program is built on goggles, hard hats, safety shoes, posters, flags or prizes," he urged the members.

"They're adjuncts, important adjuncts, but not substitutes. The individual, converted to safety, is the most important factor—and he is the only individual capable of using safety rules and protective equipment properly."

Another speaker declared that "there are fewer accidents in plants where both management and workers are safety-minded and more in plants where they are not."

The man, Dr. Neal Bowman, of the National Association of Manufacturers, stressed the point that workers frequently fail to realize the consequences involved in taking chances and said they need constant reminders to maintain safety consciousness.

Labor Department

How a state labor department can stimulate interest in a safety program was described by Forrest H. Shuford, commissioner of labor for North Carolina. He outlined the job being done in his state, stating that his department helped spur interest in safety in the more than 70 fertilizer plants in the state.

The financial reasons for safety were given by Ralph J. Crosby, assistant vice president in charge of accident prevention at Marsh & McLennan, Inc.

Reporting accident histories on the panel were these participants: Harold R. Krueger, production manager, Snyder Chemical Co., R. F. Bennett, president of Farm Fertilizers, Inc., Victor L. Cherry, plant safety inspector, Mathieson Chemical Corp., G. F. Dietz, Fertilizer Manufacturing Co-op, Ralph E. Fraser, vice president of Summers Fertilizer Co. and W. A. Stone, superintendent at Wilson & Toomer Co.

Case Histories

Brief resumes of the case histories follow:

Krueger—Discussed the importance of adequate guards around equipment, citing the case of a man who had been hurt while attempting to clean around conveyor gears. No cleaning should be done while machinery is in operation.

Bennett—Showed how a slight accident from a spinning knob on a truck steering wheel can be important. Most plants have banned these knobs, some have replaced steering wheels with horizontal bars.

Cherry—Commented on the danger of car pullers because of difficulty in providing adequate guards for cable and drum.

Dietz—Urged caution in unloading scows and mentioned case in which dangling rope had ensnared worker.

Fraser—Said fertilizer scooping machinery can be dangerous if used for other purposes, such as transporting pipe.

Stone—Discussed precautionary measures to be employed in using electrical appliances in the plant so that connections are proper.

The American Plant Food Council was host at a luncheon for the safety men, at which Louis H. Wilson, director of information, welcomed the representatives.

Commended for their work in promoting safety were the following: Dr. Russell Coleman, NFA president, Paul T. Truitt, APFC president, Smith, retiring chairman, Jack Fields, Phillips Chemical Co., A. B. Pettit, Davison Chemical Corp. and L. A. Long, editor of Agricultural Chemicals.

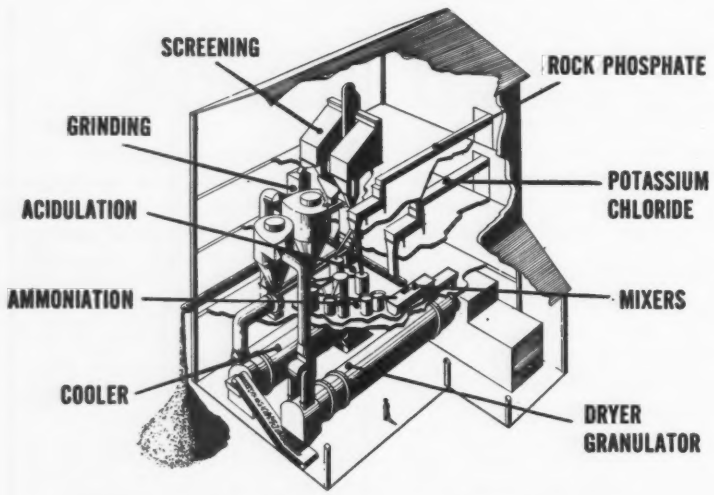
Safety Goals

1. Increase membership.
2. Promote interest in safety in every one of the 1057 fertilizer manufacturing plants in the United States and Canada.
3. See that copies of the fertilizer posters are sold and used by all the fertilizer companies throughout the nation.
4. Provide new and additional posters.
5. Promote the distribution and use of the data sheets which we have prepared during the last year specifically for the fertilizer industry.
6. Prepare additional data sheets.
7. Maintain and further develop interest in local safety movements in the fertilizer industry.
8. Try to have the safety graphs we now have widely distributed throughout the industry.
9. Develop additional safety graphs, applying specifically to the fertilizer industry.
10. Build a bigger and better safety contest.
11. Continue the excellent publicity and public relations program which Larry Shopen has carried out so splendidly during the last two years.
12. Continue to maintain the high standard of excellence of the Fertilizer News Letter.
13. Work for the next 12 months towards staging outstanding 1954 Congress meeting of the Fertilizer Section.
14. Develop new ways and methods of selling to management the importance of sending representatives to this annual meeting of the Fertilizer Section of the National Safety Congress.
15. Have representatives from our group as speakers on all the state fertilizer meeting programs whenever possible.
16. Arouse and maintain a higher degree of enthusiasm in the fertilizer industry. ◆

VII advantages

of the ST-GOBAIN Process for the Manufacture of Complete Nitrophosphate Fertilizers

1. The St-Gobain process manufactures granulated fertilizers in one continuous automatic operation. The same equipment can be used to produce various $N\text{-}P_2O_5\text{-}K_2O$ formulae.
2. Can produce end product in any sized granules desired.
3. St-Gobain plants are available in capacities of 30,000 tons of produced nitro-phosphates per year and up.
4. You benefit from improvements and experience of many years of successful operation on a large industrial scale.
5. St-Gobain process, with the same equipment, permits the use of either sulphuric or phosphoric acid according to the formula of the required fertilizer.
6. Capital investment is low due to the use of simple equipment.
7. Operating costs are low due to a continuous automatic operation and high yields.



Examples of Formulae Produced by St-Gobain Process

N%	P_2O_5%	K_2O%	
10	10	17	(sulfo-nitric acidulation)
11	11	11	" " "
10	15	20	(phospho-nitric acidulation)
12	15	18	" " "
12	12	20	" " "
14	14	14	" " "
10	20	20	" " "

For complete information write, wire or phone:

GENERAL INDUSTRIAL DEVELOPMENT CORP.
270 PARK AVE., NEW YORK 17, N. Y.
AGENTS FOR ST-GOBAIN PROCESS

Farm Chemicals 1953 Index

All major articles are indexed by author, title and subject

One-Stop NITROGEN Service For Fertilizer Manufacturers

LION

Nitrogen

FERTILIZER MATERIALS

LION ANHYDROUS AMMONIA—For formulation. A uniformly high-quality basic product. Nitrogen content, 82.25%.

LION AQUA AMMONIA—For formulation or acid oxidation. Ammonia content about 30%. Other grades to suit you.

LION AMMONIUM NITRATE FERTILIZER—For direct application or formulation. Improved spherical pellets. Guaranteed 33.5% nitrogen.

LION NITROGEN FERTILIZER SOLUTIONS—For formulation. Three types to suit varying weather and manufacturing conditions.

LION SULPHATE OF AMMONIA—For direct application or formulation. Large free-flowing crystals. Guaranteed nitrogen content, 21%.

TECHNICAL SERVICE—Lion provides special technical assistance for fertilizer manufacturers. Write to CHEMICAL SALES DIVISION for quick service.

LION OIL COMPANY

EL DORADO, ARKANSAS

◆ ◆ ◆

FERTILIZER MATERIALS MARKET

New York

November 10, 1953

Sulfate of Ammonia

Slow movement was reported by producers and prices now are subject to freight equalization at certain shipping points, which is a further price concession on the part of the producers. Since the price was established of $44 per ton, f.o.b. Southern ports, on domestic material, little has been heard of imported sulfate of ammonia.

Nitrate of Soda

A strike of workers in Chilean mines now has been settled and normal shipments of this material from Chile are expected to be resumed shortly. Stocks still are adequate to take care of nearby expected demand.

Ammonium Nitrate

Demand for this material probably has passed its peak and supplies now are available in some directions. However, an excellent demand is expected this spring.

Urea

Imported material is available at prices around $125 per ton at various Atlantic ports but demand from industrial users has slowed down recently.

Nitrogenous Tankage

Market still quoted at $3.50 to $4 per unit of ammonia ($4.25 to $4.86 per unit N), f.o.b. shipping points. Demand a little better recently.

Castor Pomace

This material recently was reduced to $25 per ton, f.o.b. production points but very little buying is noted. Some imported material has been offered recently for shipment from abroad to Southern ports.

Organics

Buying of fertilizer materials was at a minimum the last few weeks because most buyers prefer to wait and get a better idea of how much fertilizer will be sold the coming spring. Blood was stronger because of better demand from the feed trade and sold at $7 per unit of ammonia ($8.51 per unit N), f.o.b. New York with last sales of tankage made at $6 per unit of ammonia ($7.29 per unit N), f.o.b. New York. Soybean meal in bulk, f.o.b. Decatur, was quoted at $56 per ton and linseed meal was weak and demand poor. Cottonseed meal was in slow demand.

Fish Meal

Demand was fair from the feed trade but fertilizer buyers were using only limited quantities. Last sales of fish meal were at $133 per ton, f.o.b. fish factories, Virginia points. Some imported material sold at slightly cheaper prices.

Bone Meal

A little better movement was reported with some feed buyers taking on material for nearby needs. Very little imported material was available and last sales of domestic material made at $55 per ton, f.o.b. shipping points. Raw bonemeal still is scarce and hard to locate.

Hoof Meal

Last sales of this material have been made at $6 per unit of ammonia ($7.29 per unit N), f.o.b. Chicago, for nearby shipment.

Superphosphate

While no price changes were reported, this material is in good supply and most buyers are slow to accept shipments. Triple superphosphate is said to be in better supply.

Potash

Some fertilizer manufacturers have been trying to postpone shipment of this material with the producers because of the slow movement of mixed fertilizer to the farms. Shipments were said now to be running behind last year.

Philadelphia

November 10, 1953

There is no important improvement in the materials market. Blood has advanced a little in price, while castor pomace has dropped to its lowest point in the past four years. Deliveries of all materials continue below normal for this time of year, and finished fertilizers are being taken by the farmers at an exceedingly low rate. Stocks of raw materials still are piling up.

Sulfate of Ammonia.—There is no improvement in the demand and stocks are increasing. This is now priced pretty generally at $44 per ton at the ports.

Nitrate of Ammonia. Demand for this still is ahead of production.

Nitrate of Soda.—No activity and no price changes. Stocks are adequate and movement against contracts is slow.

Blood, Tankage, Bone.—Blood continues stronger, now being quoted at $6.75 per unit ammonia ($8.20 per unit N) here and in Chicago. Tankage is very quiet at nominally $6 ($7.29 per unit N) in the east and $6.50 to $6.75 ($7.90 to $8.20 per unit N) in the west. Bone Meal is without interest at $55 per ton. Hoof meal is nominal at $6 per unit of ammonia ($7.29 per unit N) in the west.

Castor Pomace.—This is in very slow demand and price has dropped to $25 per ton, which is the lowest for several years.

Fish Scrap.—Market is very quiet and menhaden meal is quoted at $134 per ton, with very little interest shown.

Phosphate Rock.—Demand is reported as moderate and supply position good, but movement is slowed down by inability of acidulators to move out their super-

Call your
BUTLER
representative to...

CUT PHOSPHATE HANDLING COSTS

with BUTLER steel phosphate tanks

Learn how you can switch from bag to bulk phosphate storage with Butler bolted steel phosphate tanks and add new profits to your operations! The Butler representative in your area is listed on the opposite page . . . call him today. He'll also show you how Butler tanks are specifically designed for the storage of phosphate, super phosphate, triple phosphate, potash, lime and similar fertilizers. You can load spreader trucks faster and easier to cut handling costs and time . . . increase your daily volume of tank-to-field deliveries.

What's more you can take advantage of lower prices on bulk rock phosphate . . . stock up ahead for rush seasons. Heavy-gauge steel sections, bolted and sealed tightly, keep Butler tanks phosphate and weather-tight . . . give them strength for heavy loads, strong winds.

Call your nearest Butler representative right away. Learn how Butler bolted steel phosphate tanks will help you cut handling costs and add new profits to your business.

This Butler phosphate tank helps the J. B. Walton Farm Supply, Mendota, Ill. cut handling costs and give customers fast service.

BUTLER MANUFACTURING COMPANY

For more details by mail write office nearest you:

7455 East 13th Street, Kansas City 26, Missouri
955 Sixth Avenue, S.E., Minneapolis 14, Minnesota
1055 Avenue W, Ensley, Birmingham 8, Alabama
Dept. 55, Richmond, California

BUTLER STEEL PRODUCTS®

Manufacturers of Oil Equipment
Steel Buildings • Farm Equipment
Cleaners Equipment • Special Products

Factories located in Kansas City, Mo.
Galesburg, Ill. • Richmond, Calif.
Birmingham, Ala. • Minneapolis, Minn.

FERTILIZER MATERIALS MARKET

phosphate, which is backing up on them.

Superphosphate.—While this started moving a trifle more freely, it is still slower than normal for this season. Supplies are more than ample.

Potash.—Deliveries are said to be a little more active, but not up to expectations. Finished fertilizers are still blocking the factories of mixers.

Charleston

November 10, 1953

Movement of mixed fertilizers has been disappointing to manufacturers in most parts of the country because of adverse weather conditions. Inventories of raw materials at plants are being maintained at high levels.

Organics.—Because of quiet demand during recent weeks, a number of fertilizer organics are priced at very reasonable levels but producers of nitrogenous tankage are in comfortably sold position at prices ranging from $3.15 to $4.65 per unit of ammonia ($3.83 to $5.65 per unit N), bulk, f.o.b. shipping point. Limited offerings of imported nitrogenous tankage are indicated at approximately $4.50 to $4.75 per unit of ammonia ($5.47 to $5.77 per unit N), in bags, c.if. Atlantic ports.

Castor Pomace.—Domestic production currently is $25 per ton, in bags, f.o.b. Northeastern production points. Imported material varies in price depending on quality from $30 to $40 per ton, bagged, ex-vessel South Atlantic ports.

Blood.—Dried unground blood, in bags, is indicated at $6.50 to $6.75 per unit of ammonia ($7.90 to $8.20 per unit N), f.o.b. Chicago area, with New York market approximately $6.50 to $7 ($7.90 to $8.51 per unit N).

Potash.—Drought conditions in various parts of the country have kept the movement of domestic muriate of potash at subnormal levels. No change in prices has been indicated. Imported muriate is arriving periodically at prices ranging from 57 cents down to 50 cents per unit K_2O, bulk, ex-vessel Atlantic and Gulf ports.

Ground Cotton Bur Ash.—This source of potash, primarily in the form of carbonate of potash, is available for prompt and future shipment at prices approximating the delivered cost of domestic sulfate of potash. Analysis currently is 38 per cent to 42 per cent K_2O.

Superphosphate.—Stocks of 20 per cent grade superphosphate continue adequate at prices approximating last season's levels. Triple superphosphate supply appears to be in more comfortable position temporarily because of drought conditions. Current price is 98 cents per unit A.P.A., bulk, f.o.b. Florida production point such as Tampa.

Phosphate Rock.—Movement to domestic users is slightly below normal dimensions but export movement is fair and prices remain firm.

Sulfate of Ammonia.—Current prices for domestic material are tailored to meet the Atlantic and Gulf port price of $44 per ton, f.o.b. cars. Supplies are adequate.

Nitrate of Soda.—The strike in the Chilean mines has been concluded and market conditions on imported nitrate of soda are back to normal. Stocks are adequate and demand in season dimensions.

Calcium Ammonium Nitrate.—Stocks in bulk and in bags are available at several Atlantic and Gulf ports. Price in bags is indicated at $51.25 per ton, f.o.b. cars, at the ports and in bulk at $48.25.

Ammonium Nitrate. — Demand continues active and in excess of available supply. Prices remain unchanged.

Industrial News

New Products **New Plants** **New Appointments**

NAC Southern Group To Meet

Large attendance is expected for the National Agricultural Chemicals Association southern group meeting to be held Dec. 15 in the Peabody Hotel's Skyway Room in Memphis.

On the program is a talk on foreign credit and agricultural financing, to be delivered by C. C. Smith, vice president of the National Bank of Commerce, and a discussion on merchandising and selling to the farm market by Lloyd E. Partain, sales manager and farm market director of *Country Gentleman.*

All interested persons have been invited to attend this open meeting.

It is being held on the afternoon prior to the Cotton Insect Control Conference. Many delegates, are expected to stay in Memphis for the latter conference.

Cyanamid Ups Capacity

American Cyanamid Co. is going ahead with engineering plans to double the presently planned anhydrous ammonia production capacity of its Fortier Plant now under construction near New Orleans, according to reports from the company.

The Fortier plant, a $50 million facility for production of nitrogen chemicals from natural gas, will have a production capacity of more than 300 tons of anhydrous ammonia per day, American Cyanamid announced.

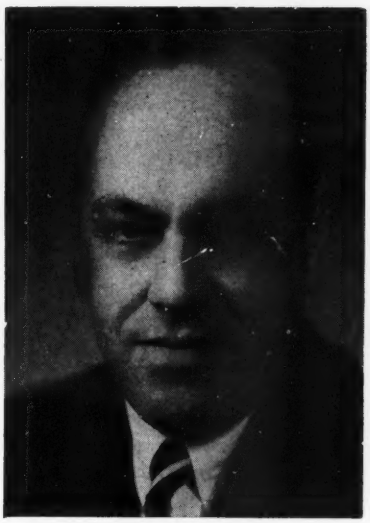
Ammonia, acetylene, hydrocyanic acid and derivatives of these, such as acrylonitrile and ammonium sulfate, all will be produced at the plant.

Scanlan Heads OPFA

R. W. Scanlan, Phillips Chemical Co., was elected secretary of the Oklahoma Plant Food Association at the group's quarterly meeting in Tulsa, Nov. 3. He replaced L. L. Jacquier, who resigned because of a transfer to the Kansas City office of Phillips.

Matters discussed at the meeting included a tentative schedule of educational meetings for fertilizer dealers, bankers and newspaper editors; a plan for organizing a speaker's bureau and distribution of information on field fertilizer trials made by Oklahoma A & M College Extension division.

Geiger Replaces Hockley



R. L. Hockley

M. G. Geiger

Marlin G. Geiger last month was elected president and chief executive officer of The Davison Chemical Corp. following the resignation of R. L. Hockley, who left Davison to become vice president of Mathieson Chemical Corp.

Geiger joined Davison as executive vice president in 1947. He was elected to the board of directors the same year and in 1951 was elected vice chairman of the board.

As vice chairman, he had been responsible for all company activities in research and development, chemical operations and engineering, including the design, engineering and construction phases of the company's current expansion program.

Geiger also has taken an interest in Davison's industrial safety program.

Hockley, who had been with Davison since 1934, will join Mathieson on Jan. 1. He will assume executive responsibilities of major importance with the corporation, according to Thomas S. Nichols, Mathieson president.

He is a director of Mercantile Safe Deposit and Trust Co. of Baltimore, U. S. Hoffman Machinery Corp. and the Manufacturing Chemists' Association, Inc.

Ferguson Elected

Dr. George R. Ferguson has been named president of the newly formed Geigy Agricultural Chemicals division of Geigy Chemical Corp.

Other men named to managerial duties in the new division include John G. Plowden, sales manager; L. G. Gemmell, assistant manager; Paul B. Allen, manager of the western territory; C. C. Alexander,

Industrial News

research manager and Lewis P. Harris, production manager.

DuPont Gets Patents On Its CMU Herbicide

Patents on CMU and phenyldimethylurea were issued to E. I. duPont de Nemours & Co. in October, as assignee of the inventor, Dr. Charles W. Todd of DuPont.

CMU is the common name for 3-(p-chlorophenyl)–1, 1-dimethylurea. It has low use cost, low toxicity to warm-blooded animals, a lack of combustibility hazard and effectiveness against a wide range of weeds, according to DuPont.

Phenyldimethylurea still is in the experimental stage. The company says experiments with the chemical indicate that it is a promising candidate to kill patches of perennial weeds such as field bindweed and Canada thistle in cropland.

Plant Regulators Cost Two Million in Research

Approximately $2 million and over four years of laboratory field work were spent by E. I. duPont de Nemours & Co. on development of its relatively new line of urea plant regulators, Delbert Van Fletcher told those in attendance at the Oregon Weed Conference late last month.

Fletcher, assistant director of the Technical division of DuPont's Grasselli Chemicals department further told delegates that the work involved preparation and testing of more than 700 related compounds before company scientists came up with weed killers such as CMU.

Work is continuing, he said, to determine effectiveness and safety of CMU and related materials in many different agricultural applications.

Bemis Buys Stock

Bemis Bro. Bag Co. last month purchased all outstanding stock of the Flexible Package Co., of Chicago.

Present plans are to operate the Flexible company under the same name, managerial and operational personnel, as a wholly owned subsidiary, Bemis reports.

The Chicago firm makes polyethylene and Polycel bags.

Larvacide Names Oliver

Larvacide Products, Inc., has appointed Grant Oliver its technical sales representative for the Pacific Coast.

Oliver formerly was with Prior Products Co., of Dallas, Tex.

He will make his headquarters at the E. S. Browning Co., 1515 Third St., San Francisco.

New Hammond Plant

Hammond Bag & Paper Co.'s new plant at Charlotte, N. C. now is in full production.

Built by the North State Developing Co., it is of reinforced concrete, with brick facing providing approximately 20,000 square feet of floor space.

The company at present is manufacturing only small bags for grain products and sewn open mouth bags for feeds, fertilizers, etc., at the Charlotte plant, but states that in the future it may add facilities for manufacturing multi-wall valve and open mouth paper shipping sacks.

Plant manager is R. C. Barnes and superintendent, Carl Metcalf.

Atlas Breaks Ground For New Headquarters

Ground was broken late last month for Atlas Powder Co.'s new administrative headquarters to be located on a 45-acre tract at Concord Pike and New Murphy Road, Wilmington.

The structure, which will cost about $2,700,000, is scheduled for completion early in 1955. It will house Atlas's present 400 general office employes and allow for a 50 per cent future expansion in administrative staff, the company states.

Designed by Wilmington architect G. Morris Whiteside II, and to be constructed by H. K. Fergu-

son Co., the 382-foot long brick office building will have a three-story center section with two-story wings on either side.

A one-story structure adjacent to the offices will house an employes' cafeteria and social room. The project's grounds will include a swimming pool, tennis courts and other recreational facilities, according to Atlas.

Romaine Heads ACS Fertilizer Division

Newly elected chairman of the American Chemical Society's Division of Fertilizer and Soil Chemistry is Jesse D. Romaine, secretary and chief agronomist of the American Potash Institute.

He succeeds A. L. Mehring, former senior chemist of USDA's Bureau of Plant Industry, Soils and Agricultural Engineering.

Other officers and the offices to which they were named are George H. Serviss, of Co-operative G.L.F. Exchange, vice chairman; G. L. Bridger of Iowa State College, sectary, and M. Dwight Sanders of Swift & Co., alternate divisional representative on the council of ACS.

Kezer Joins Mathieson

Scott R. Kezer has joined the Agricultural Chemical Development group of Mathieson Chemical Corp.'s Chemical Research and Engineering division.

Kezer, who previously was associated with the USDA, will carry on herbicidal screening of new chemicals at Mathieson-Squibb Research Institute, Pleasant Hill, Md.

General Chem. Enlarging

General Chemical division of Allied Chemical & Dye Corp. recently reported that it is enlarging sulfuric acid production capacity of its Detroit Works in River Rouge, Mich.

The new sulfuric unit is scheduled to go into production late next summer and will nearly double the present sulfuric capacity, the company announced.

At Hough

Madison L. Crawford, new advertising manager for the Frank G. Hough Co. He had served, for the past six years, as associate advertising manager of Clark Equipment's Industrial Truck Div.

Poulson Reorganizes

Engineering, manufacturing and distribution of equipment for feed, fertilizer, insecticide, and other related chemicals will be done by the newly formed Poulson Co., according to an announcement by A. E. Poulsen, president.

Personnel formerly associated with A. E. Poulsen & Co., which is being dissolved, compose the new company, the president stated.

General offices of Poulson Co. are at 5957 West Third St., Los Angeles.

Eastern Distributor

Philipp Bros. Chemicals, Inc. has been appointed Eastern distributor for products of Universal Detergents in the agricultural field.

Sales of Udet F surfactants will be directed by K. D. Morrison, vice president of Philipp Bros., at the company's New York headquarters, 37 Wall Street.

Industrial News

Farm Chemicals Finances . . .

American Potash

Sales and profits of American Potash & Chemical Corp. for the first nine months of 1953 were $17,118,143 and $1,585,669 respectively, reflecting increases compared with figures for the same period last year of $12,954,920 and $1,211,358.

Figures include the operating results of Eston Chemicals division for nine months of 1953 but for only August and September in 1952.

Smith-Douglass

Smith-Douglass Co. reported a 23 per cent increase in net sales for the year ended July 31 and an increase of 48 per cent in earnings.

Consolidated net sales were $37,160,524 compared with $30,211,177 for the preceding year.

Net earnings, after provision for taxes, were $2,175,162, compared with $1,467,423 for the previous year.

Lion Oil

Lion Oil Co.'s net income for the third quarter, $2,204,052 after provision for taxes, increased 11 per cent over the $1,979,946 earned in the same period a year ago.

For the nine months ended Sept. 30, net income was $7,449,910 or $2.41 per share, compared with $7,528,068 or $2.44 per share last year.

International

Net sales of International Minerals & Chemical Corp. for the first three months of the current fiscal year ended Sept. 30 were $17,342,962 compared with $17,159,301 for the same three-month period last year.

Earnings before income taxes for the 1953 period were $1,494,025 compared with $1,521,784 for the corresponding months in 1952.

Davison Dividends

Dividends last month were declared by directors of The Davison Chemical Corp. for the quarter ending Dec. 31, 1953, of 37½ cents on common stock and 57½ cents on Series A preferred stock, both payable Dec. 31 to stockholders of record Dec. 10.

Commercial Solvents

Commercial Solvents Corp. and its subsidiaries' earnings for the nine months ended Sept. 30 were $1,836,087 or $.70 a share. This reflects an increase of $1,388,573 over the $447,514 or $.17 per share earned during the same period last year.

For the quarter ended Sept. 30, net earnings were $812,939 compared with $280,971 for the third quarter of 1952.

Phillips

Phillips Petroleum Co. and its subsidiaries' net profit for the nine months ended Sept. 30, 1953 was $55,458,247 compared with $56,292,149 for the same period of 1952.

Net profit for the third quarter of 1953 was $21,233,401, an increase over the $17,358,707 reported for the third quarter of 1952.

Davison Income

Net income of Davison Chemical Corp. for the first quarter of its fiscal year ended Sept. 27, was $433,000 or $.45 per share of outstanding common stock, a decrease compared with the $627,000 or $.86 a share reported for the comparable period last year.

Sales for the quarter were $11,677,000, compared with $11,619,000 for the corresponding quarter a year ago.

Freeport

Freeport Sulphur Co.'s net income for the first nine months of 1953, after provision for taxes, amounted to $6,020,230, an increase of $782,845 over the earnings of $5,237,385 reported for the nine-month period in 1952.

THE SACKETT PLANT PACKAGE

FOR OVER FIFTY YEARS WE HAVE SERVED ONLY THE FERTILIZER INDUSTRY.

FOR 15 WE HAVE BUILT COMPLETE DRY MIXING AND SUPERPHOSPHATE PLANTS.

THIS IS WHAT WE MEAN BY COMPLETE.

1 Property Selection

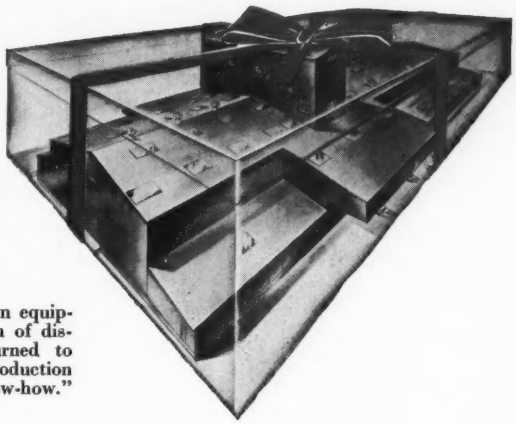
We assist you in the important matter of site selection for your new plant including determination of subsoil conditions.

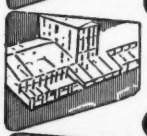
2 Plant Investment

We tell you before the contract is signed exactly how much the plant will cost. We protect you against unknown "cost plus" work.

3 Plant Design

We *custom-design* the building and all production equipment to meet the particular needs of your area of distribution. Further, we leave no stone unturned to incorporate the highest possible degree of production efficiency based on our wealth of specialized "know-how."





4 Building Construction

We construct the building from foundations to roof using the best materials obtainable in each component part. We include all electric power and lighting required including a power room, in which are located all motor controls for protection against usual dust and moisture conditions.

5 Equipment Manufacture

We fabricate in our own shops production equipment of the very latest design. Upon arrival at the site, we install this equipment with highly skilled men under the supervision of thoroughly competent field engineers. Upon completion of this work, each component part is thoroughly tested prior to the plant's initial operation.

6 Guaranteed Performance

We guarantee the operating performance of the complete project both from a standpoint of hourly capacities as well as manufacturing costs covering each operational phase involved. In most every case, these guarantees are exceeded by a safe margin. Should deficiencies develop, prompt corrective measures are taken at our expense.

7 Training of Personnel

After its initial startup, our Operations Engineer remains at your plant to thoroughly train your key production personnel.

Superphosphate and mixed goods producers are invited to get our seasoned counsel on their expansion and modernization programs. It is available at no cost.

SACKETT
BALTIMORE

America's Foremost Designers and Builders..

SUPERPHOSPHATE PLANTS • FERTILIZER MIXING PLANTS

RELATED PRODUCTION EQUIPMENT

THE A. J. SACKETT & SONS CO.,
1727 S. HIGHLAND AVENUE, BALTIMORE 24, MD.

Architects and Manufacturing Engineers to the fertiliz...

Industrial News

USDA Praised In Work On Pesticide Safety

Satisfaction with basic work of the USDA in making food safe from insecticide and fungicide residues was expressed at the three-day meeting of the Food and Nutrition Research Advisory Committee in November.

Established under authority of the Research and Marketing Act of 1946, the committee recommended bolstering work of chemists in this field and employment of a pharmacologist.

At this year's annual meeting the committee was chiefly concerned with a review of the department's utilization research, with emphasis on influence of processing on the nutritive quality of food and preservation of its quality, and with a review of the department's production research as it relates to food nutrients.

Columbia-Southern Drops Claims on 'Chloro-IPC'

All claims on the name "Chloro-IPC" have been relinquished by Columbia-Southern Chemical Corp. and the company is offering the name for free use by the public.

The company says it has waived its claim to the brand name because the term was so readily and widely accepted by both industry and governmental agriculturists that it decided generic use is warranted.

Ezee Flow Changes Name Of Collegeville Plant

Ezee Flow's Collegeville, O. plant now is being operated as part of New Idea division, Avco Manufacturing Corp.

R. R. Mueller, acting general manager of the division, said the change was in name only and did not affect operations, products, management or personnel.

The Collegeville plant manufactures fertilizer spreaders for New Idea and for Avco's Ezee Flow division.

American Potash Says Herbieides Cover All Weed Killing Problems

COMPLETE coverage of all weed-killing problems is provided by Tronabor and Tumble-Weed-25, according to American Potash & Chemical Corp., which now is marketing the products.

Tronabor is a new, concentrate borate weed killer containing not less than 13.7 per cent Boron and 44 per cent B_2O_3. Combining properties of a general-contact weed killer and soil sterilant, the company says, it is most effective when applied dry, though it also can be used in solution as a spray.

When applied before or during seasonal rainfall, it is dissolved and permeates the soil to the root zone of the plants, where it destroys and prevents regrowth until removed by normal leaching, according to American Potash.

Tronabar can kill such growths as Russian Knapweed, Canada Thistle, Bindweed, Toad Flax, Leafy Spurge, Whitetop, Johnson Grass, Poison Ivy and Oak, St. Johnswort and others.

Quack Grass, Bermuda Grass, Russian Thistle and Salt Grass are more effectively controlled by Tumble-Weed-25, a non-fire-hazardous weed killer suitable for either dry or spray application, the company reports.

Chemical composition of this non-selective herbicide is 25 per cent sodium chlorate and a minimum of 72 per cent soluble borates, plus a wetting and a spreading agent.

Tumble-Weed-25 is a development of the company's Eston Chemicals division.

Industrial News

Shell Changes Name Of Julius Hyman Div.

Shell Chemical Corp. is changing the name of its Julius Hyman & Co. division to the Agricultural Chemicals division, effective Jan. 1, according to L. V. Steck, Shell's marketing vice president.

F. W. Hatch will continue as manager with J. J. Lawler as sales manager.

The division will continue to market aldrin, dieldrin, endrin, DD and other insecticides and farm chemicals.

Steck stated that this change affected only the sales organization. The Denver plant will continue to be operated by Julius Hyman & Co.

USDA Releases Pink Bollworm Foes in Texas

Two-hundred-fifty-thousand insect enemies of the pink bollworm were released in Texas cotton fields this summer in one of the research efforts by USDA entomologists to curb the threat of this pest to American cotton production.

Nearly 300 counties in Texas, Oklahoma, Arizona, New Mexico and Louisiana now are under quarantine because of the possibility that uncontrolled, the pink bollworm could spread throughout the cotton belt as the boll weevil did 30 years ago.

A survey of infested cotton fields next spring will determine how well these insect enemies have overwintered and established themselves under American cotton-growing conditions, and will guide entomologists in planning further pink bollworm biological control research.

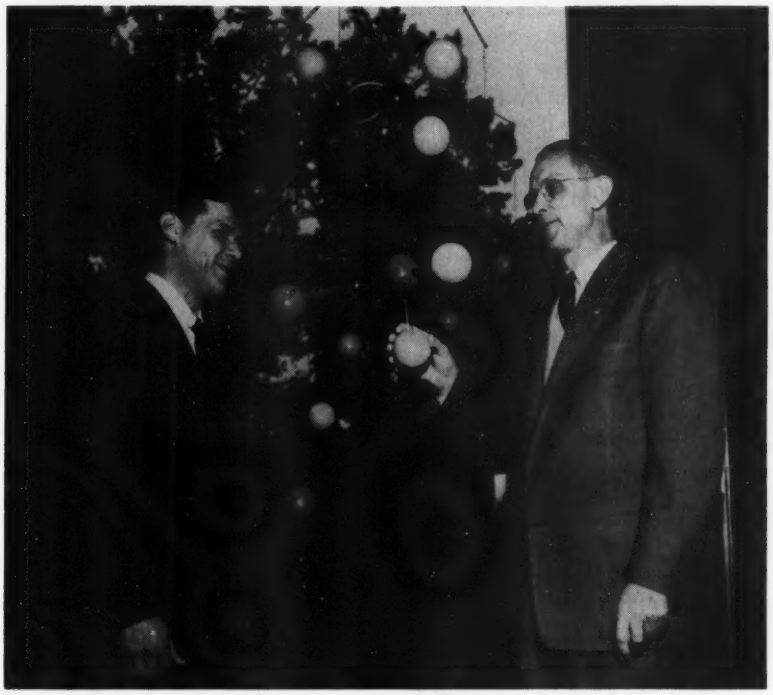
Gulf Fertilizer Co. Honors Old Customers

Oldest customers of Gulf Fertilizer Co. were honored last month in connection with the company's 50th anniversary observance.

Customers were taken on a tour of Tampa industries by A. R. Timberman, industrial manager of Greater Tampa Chamber of Commerce, and then on a harbor cruise.

A $500 gift was given to the oldest customer of the company at a dinner at which Gulf patrons were guests.

Opening Nitrogen Div. Lab.



Hugo Riemer, president, and F. O. Agel, director of development in the organic, Nitrogen division, Allied Chemical & Dye Corp., discuss a Molecular "Mobile" used as dedication symbol in opening the division's new organic research and development laboratory and center at Hopewell, Va.

At the opening of Nitrogen division's organic development center at Hopewell, Va. in October, Hugo Riemer, president of Nitrogen division, Allied Chemical & Dye Corp. predicted "the most startling development in chemistry in the next few years will be in the organic field."

Located in a wooded section of Hopewell adjacent to the division's ammonia laboratory, the organic development center consists of two buildings which together provide nearly 40,000 square feet of working space.

Fundamental research on ammonia and related nitrogen products, development of new processes and products and studies on new uses for nitrogen products in agriculture and industry are being carried on at the ammonia research laboratory.

New Fumigant

A new grain fumigant called "Planetary Fumigant" is being distributed by Planetary Chemical Co., of Creve Coeur, Mo.

The fumigant, which is a patented synergistic mixture of ethylene dibromide and methyl bromide, has a vapor pressure so low that it can be poured from small cans and will trickle down through a great depth of grain, according to the company.

It slowly vaporizes to build up a lethal concentration of fumes which will penetrate into every crevice in the bin giving a kill considerably higher than that which could be obtained with either constituent alone, the company reports.

Industrial News

Petro-Chemicals Opens Two New U.S.I. Plants

Two U. S. Industrial Chemicals division plants are included in the seven producing plants which comprise the new $50 million National Petro-Chemicals Corp. plant dedicated Nov. 11.

Located on a 500-acre site four miles west of Tuscola, Ill., it is owned 60 per cent by National Distillers Products Corp., which manages and operates it, and 40 per cent by Panhandle Eastern Pipe Line Co.

One of the two plants of the U. S. I. division is a $7 million unit to manufacture 50,000 tons of ammonia a year. The other is a $2 million sulfuric acid plant.

In 1951, U. S. Industrial Chemicals, Inc. merged into National Distillers and now operates as a division under the U. S. I. name.

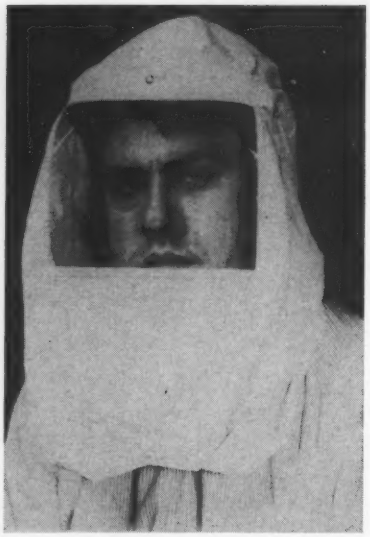
Film on Grasslands Released by USDA

A new film depicting the growing of grasses and legumes has been released by the U. S. Department of Agriculture.

Scenes in the film are taken in farms in various sections of the country. Farmers themselves relate that it is possible to grow the right kind of grass only on soils that have been adequately limed and fertilized.

The film, "Grass," is being distributed to most state extension services and some experiment stations.

12-1 Dust Hood



Protection of employes from irritating dusts is an important job in any plant, and General Scientific Equipment Co. says its new dust hood can do well the job of protecting eyes, head, face and neck.

Made of light weight cloth, with a large window, it offers full unrestricted vision in all directions. It may be worn with a respirator.

The hood is light weight and easy to wear, according to the company. For further information, fill out a **Reader Service** card, using **Code Number 12-1.**

Potash Deliveries

Potash deliveries by U. S. producers and importers during the first nine months of 1953 amounted to 2,445,411 tons of potash salts containing 1,425,351 tons K_2O, an increase of 10 per cent in salts and 11 per cent in K_2O over the corresponding period in 1952, according to the American Potash Institute.

Potash for agricultural use in the U. S., Canada, Cuba, Puerto Rico and Hawaii amounted to 1,345,752 tons K_2O in 2,317,234 tons of salts of which 2,098,853 tons were muriate of potash, 4,711 tons manure salts and 213,670 tons sulfate of potash and sulfate of potash magnesia. This represents an increase of nine per cent in salts and 11 per cent in K_2O.

Further comparisons for the third quarter of 1953 with 1952 are shown in the accompanying table.

Reports on Materials Included In Volume

Eighteen papers presented at the first Basic Materials Conference in New York last June are included in *Materials for Product Development—1953*, a 265-page volume being distributed by Clapp & Poliak, producers of the conference.

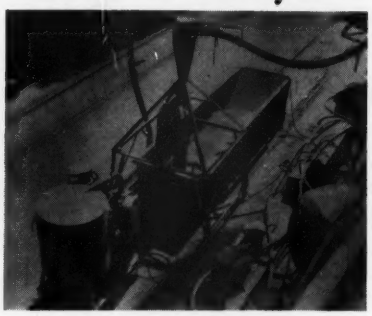
The papers range in scope from discussions of newest kinds of materials, such as radioactive materials, titanium and zirconium, to new applications of such staples as steel, ceramics and wood.

Also included are 36 tables, 30 graphs and the text of 83 questions and answers offered at the conference.

The book is available from Clapp & Poliak, Inc., New York 17, for $7.50, postpaid.

Industrial News

12-2 Vacu-Veyor



Pneumatic Conveyor

Fertilizers can be handled efficiently and economically with the new, versatile Vacu-Veyor, Vacu-Blast Co., manufacturers of the pneumatic conveyor, reports.

It eliminates manual operations, because only one man is needed to operate the Vacu-Veyor, and it can convey up to 40,000 pounds per hour, offering fast, efficient and complete removal of all material, Vacu-Blast states.

For further information, fill out a **Reader Service** card, using **Code Number 12-2.**

New Geigy Insecticide Shows Promise in Tests

A new phosphate compound called Diazinon has shown promise in laboratory and field tests for control of houseflies and certain other insect pests according to Geigy Co., which developed the material.

Laboratory and field tests conducted in this country and Switzerland have shown that Diazinon is an effective residual insecticide for controlling houseflies which show resistance to chlorinated hydrocarbon insecticides, Geigy states. Under a recent reorganization of the company, Geigy Agricultural Chemicals division of Geigy Chemical Corp. is handling development of the product.

For housefly control, tests to date indicate that from 16 to 32 pounds of Diazinon 25 per cent wettable powder per 100 gallons of spray be applied.

Fur further information on the compound, fill out **Reader Service** card, using **Code Number 12-3.**

NFA News

NFA members voted down a proposal to change the name of the organization to The National Plant Food Association, it was reported at the Atlanta convention.

NFA officials said that 168 replies were received to a questionnaire circulated to 250 members. Of this number, 102 opposed the name change while 66 favored it. However, NFA officials said they thought the questionnaire was not thoroughly understood by most recipients and that another questionnaire would be sent out to the members.

In another action, NFA changed Article I, Section 2 of the bylaws to make membership open only to those whose membership is in the best interest of the association and the industry.

Nopco Chemical Co. Buys Yocum Faust, Ltd.

Controlling interest in Yocum Faust, Ltd., of London, Ont., Canada, has been purchased by Nopco Chemical Co., according to Thomas A. Printon, Nopco president.

Nopco supplies more than 300 chemical specialties including emulsifiers, lubricants, plasticizers and dispersing agents.

Yocum Faust, Ltd. will supplement Nopco's service to these industries.

Still Active

In a review of the American Plant Food Council's new film, "Making the Most of a Miracle" which appeared in last month's FARM CHEMICALS, it was stated that Dr. John R. Taylor, formerly agronomist for the association, had retired. Such is not the case.

After resigning from APFC, Dr. Taylor joined Grand River Chemical division of Deere and Co. as sales manager and obviously still is quite active in the farm chemicals industry.

. . . NFA

(Continued from page 13)

as a group can maintain their income without adding to already cumbersome agricultural surpluses.

Talk on Selling

Deas, who spoke on "Selling—The American Way," outlined to the members some pointers on increasing sales of their products.

A representative of the Atlantic Division of American Can Co., Deas spoke from long experience in the sales field.

Social activities at the convention, in addition to Jim Totman's favorite sport, included a cocktail party sponsored by Ashcraft-Wilkinson Co. and Duval Sulphur & Potash Co., the annual convention banquet and an evening of entertainment and dancing in the Biltmore's handsome Empire Room.

Meetings of the NFA executive committee and the board of directors preceded the convention.

Board Chairman Louis Ware presided at both meetings of the Association. ◆

Classified

Position Wanted—Married man, college graduate, 18 years experience in fertilizer sales and management, 1934–52, wants to return to industry in similar position. Has successfully directed sales of fertilizer, limestone and other agricultural products for large companies. Address "440" care FARM CHEMICALS, Philadelphia 7, Pa.

Position Wanted—Chemical Engineer thoroughly grounded in fertilizer technology seeks position as director of research and quality control. Age 46, present salary $8500. Address "435" care FARM CHEMICALS, Philadelphia 7, Pa.

Wanted: Plant Superintendent for midwest fertilizer plant. Prefer chemical or mechanical engineer with some experience in plant operation and maintenance. Address "430" care FARM CHEMICALS, Philadelphia 7, Pa.

Wanted: Chief Chemist for new phosphoric acid and ammonium phosphate plant located in Midwest. Must be familiar with AOAC analysis. Address "425" care FARM CHEMICALS, Philadelphia 7, Pa.

. . . Agricultural Ammonia

(*Continued from page 17*)

in the future. These factors are generally fixed for an ammonia producer when the plant site is chosen because they are primarily determined by freight rates on ammonia and the plant locations of other producers.

In addition, it is logical for a producer's sales to reflect diversification in the form of different crops and different farm economies—for instance, part for pastures and part for corn, cotton or other row crops; or part for summer crops and part for fall-planted small grains.

Also to be considered is the weather. It is not sound business for a producer to market all of his direct application ammonia in a territory where similar weather conditions are likely to prevail. It is also advantageous to consider the length of the growing season when thinking of agricultural ammonia sales. For instance, in the middle of the United States we have the corn belt to the North which has a relatively short growing season, but high ammonia application rates—whereas in the South the growing season—and hence the ammonia application season—is longer, but the average application rates are lower. And, most important to us all, agricultural ammonia should only be sold where it is agronomically and economically the right material for the farmer to use.

From an ammonia producer's standpoint, we've examined some of the common-sense factors which will govern our industry. Now let's see if we can pick out some trends. First, I believe it is safe to say that ammonia producers are more interested in selling the agricultural ammonia industry than they have been in the past. This is because the industry has proven itself to be economically sound and to have a large future growth potential.

Diversification Needed

Some producers have elected to sell all, or a portion of, their ammonia through their own field outlets, which they have constructed. Another has recently evidenced an interest in buying out already established distributors to achieve the same goal. This appears to be the result of a need for the diversification and stability of operation achieved by direct control of field storage and marketing. However, most producers have evidenced no interest in retail marketing and have remained solely in the wholesale ammonia market.

There has been a growing interest in agricultural ammonia on the part of the liquefied petroleum gas industry because of the similarity of LPG and ammonia, from a transportation and storage standpoint. Also interested are some fertilizer manufacturers who wish to fill out their line of fertilizer products. There's no doubt that agricultural ammonia and mixed fertilizers complement each other for many uses.

Now let's examine the position of the agricultural ammonia distributor. There have been a series of problems which have hampered his most efficient operation. Undoubtedly, in the past, the most difficult problem has been supply. However, I would personally list seasonal consumption as the biggest problem of the distributor because I believe the ability of a distributor to increase his ratio of sales to storage will directly affect the solution of his other problems.

Let's look at it this way—the four big problems of the ammonia distributor have been seasonal consumption, supply of ammonia, storage facilities and the necessary capital to finance carrying of inventory and the erection of new storage. If a distributor can promote the more balanced sale of agricultural ammonia over the year—in other words, increase his sales/storage ratio—he automatically reduces the amount of money he has tied up in inventory.

Ammonia generally has been and should be in the future more readily available during the off season so that replacement for ammonia sold in the late summer, fall and winter can be found. This, to some extent, solves the supply problem and those distributors who demonstrate their ability to sell off-season ammonia should be better able to contract for their needs.

Higher Volume

The higher volume of business produces greater profits stemming from both decreased general business overhead and from lowered depreciation charges on investment in storage and other equipment. The greater profits should make expansion to meet increased demand easier for the distributor.

That all sounds very simple, doesn't it? No doubt you're thinking anyone can say that. As a matter of fact—a lot of people have said it—and in many different ways. However, that doesn't alter the fact that it's true, so let's look and see what's been done so far to lick these problems, and what the future may hold.

We've already said that there will be more ammonia available. Naturally, there will be more ammonia for some sections of the country than others because of plant locations and the other factors we've mentioned. Some of this production will not be ready for the 1953-54 season and some may not even be available during the 1954-55 season. I believe it's quite possible that there may continue to be an overall deficiency of supply for the next few years unless conditions change materially.

More practical marketing policies geared to industry needs on the part of the producers should be of some assistance. Ammonia supplies should be fairly good in areas near producers or where they do not anticipate future competition. Supplies will be more difficult to obtain in areas remote from producers or where there is the threat of future competition.

Local Problems

Each local area has its own peculiar problems when it comes to seasonal agricultural consumption. The type of soil, major crops, past fertilizing practices and the amount of experimental and demonstration work done on these crops and soils all are important factors. Fall application of ammonia is growing, but it's a slow, tough educational program which must be constantly worked on. Let's say there is a trend in the direction of fall application—and a sound one—but that

it's going to take a lot more pushing on all our parts to really put it over.

The trend toward the use of higher and higher levels of all plant nutrients also should help agricultural ammonia sales. It is becoming more and more apparent to everyone that greater amounts of nitrogen require increased levels of potash and phosphorus. For some time the opinion was that a 1-1-1 ratio of plant nutrients was a desirable goal for mixed fertilizer ratios. Now many authorities feel that a 2-1-1 ratio is needed and some go even higher than that on some crops. Because it does not appear to be feasible to manufacture high analysis fertilizers at ratios greater than 1-1-1, there should be a greater use of separate nitrogen products in conjunction with mixed fertilizers. Undoubtedly agricultural ammonia will share handsomely in this trend.

Many agricultural ammonia distributors also handle mixed fertilizers or even have their own mixing plants. This should become even more popular because if agricultural ammonia can be sold to a farmer the chances are also strongly in favor of that farmer's willingness also to buy his mixed fertilizer requirements from the same source. It is to the farmer's advantage because it saves him time and trouble.

It is to the distributor's advantage because he has sold two products with just about the same amount of effort and sales cost. The distributor also is assured that the farmer has purchased the other plant nutrients which are required to obtain the best results from agricultural ammonia. And it also gives the distributor more diversification, opportunity to make more sales and keeps down the overhead.

Fertilizer Industry

By the same reasoning, fertilizer manufacturers have evidenced a greater interest in agricultural ammonia; and although this trend does not appear to be as strong, it will perhaps grow also.

We've heard it said often that "the best place to store agricultural ammonia is in the ground." I'm sure all of us are doing our best to promote this with fall application and other programs wherever it is to the advantage of the farmer. Another approach being used in many instances is the promotion of farmer storage.

If a goodly percentage of agricultural ammonia customers could be persuaded to buy the number of small tanks needed to most economically handle the amount of ammonia they purchase—or would like to purchase—the ammonia storage problems of most distributors would be solved and they would have happier customers. There's good profit in handling this business too, so it should be on the increase.

Application Equipment

Starting from scratch as it had to, our industry has developed some fine ammonia application equipment. It had to do this in a hurry and it was largely a development within the industry itself. Because of the newness of this field and the problems peculiar to our industry, there should be even better developments in application equipment ahead of us.

There have been in the past many different ways for distributor financing. We now have several companies which make a business of lending capital on agricultural ammonia inventories. Local banks in many sections of the country have become conscious of the opportunity for business in the financing of storage plants and inventory.

In addition, many banks are becoming convinced of the soundness of making farmer loans for fertilizers and this undoubtedly helps the sale of agricultural ammonia considerably. The growth and earnings prospects of the agricultural ammonia industry have attracted venture capital from many diverse sources. As our industry grows and more financial people become educated about the *potential for* and *soundness of* investment in agricultural ammonia, it should become easier to find the money which is needed to continue our expansion.

We are all appreciative of the great amount of research work which our colleges and experiment stations have done on agricultural ammonia. The information provided us from these sources has done much to insure our sound growth because it has allowed us to see where the advantages of agricultural ammonia lie, and to foster demonstrations and sales based upon the conviction of the rightness of ammonia for those applications.

Because of the respect of our farmers for the men who do this work, their recommendations have carried much weight and have been invaluable to all of us. We owe these gentlemen much and should do all we can to aid them in their work.

Ammonia Institute

It would be impossible to talk about the trends in the agricultural ammonia industry without mentioning the Agricultural Ammonia Institute. Like the industry itself, our Institute has grown in a few years to more than 300 members in 40 states. It embraces all phases of the agricultural ammonia industry and provides a common meeting ground for us to talk over our problems.

There are now seven standing committees which are continually working for us, and within these there are many sub-committees. These committees are made up from the membership and serve us all through the medium of reports and bulletins and in many other ways. We also have a brand new style for our popular and growing publication—the *Agricultural Ammonia News*. Certainly we should all be proud of the growth and strength of our organization.

Now let's briefly summarize what's ahead for the future.

Generally, the future looks bright, as it should for an expanding field. We've had some tough problems in the past—some of them have been licked—like the availability of equipment and storage tanks—some have been partially solved—and some tough ones are still with us.

We've made steady progress and although some of us may have critical troubles, there aren't as many of them as there were, and we've got more experience and information on how to combat them. Taking everything into account—the agricultural ammonia industry has made great strides ahead, and should be able to continue this building program for the future benefit of all agriculture. ◆

Buyers' Guide

Classified Index to Advertisers in 'Farm Chemicals'

ALDRIN
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.

AMMONIA—Anhydrous and Liquor
Commercial Solvents Corporation, New York City
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Lion Oil Co., El Dorado, Ark.
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM NITRATE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Commercial Solvents Corporation, New York City
Lion Oil Co., El Dorado, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

AMMONIUM PHOSPHATE
Monsanto Chem. Co., St. Louis, Mo.

AMMONIUM SULFATE
See Sulfate of Ammonia

AMMONIUM SULFATE NITRATE
Baker & Bro., H. J., New York City

BAGS—Burlap
Bemis Bros. Bag Co., St. Louis, Mo.
McIver & Son, Alex. M., Charleston, S. C.

BAGS—Cotton
Bemis Bro. Bag Co., St. Louis, Mo.
McIver & Son, Alex. M., Charleston, S. C.

BAGS—Multiwall-Paper
Bemis Bro. Bag Co., St. Louis, Mo.
International Paper Co., Bagpak Div., N. Y. C.
Hammond Bag & Paper Co., Wellsburg, W. Va.
Hudson Pulp & Paper Corp., N. Y. C.
Kraft Bag Corporation, New York City
McIver & Son, Alex. M., Charleston, S. C.
Raymond Bag Co., Middletown, Ohio
Union Bag & Paper Corp., New York City

BAGS—Dealers and Brokers
Ashcraft-Wilkinson Co., Atlanta, Ga.
McIver & Son, Alex. M., Charleston, S. C.

BAG CLOSING MACHINES
Fischbein Co., Dave, Minneapolis, Minn.
International Paper Co., Bagpak Div., N. Y. C.

BAG CLOSING—THREAD & TWINE
Bemis Bros. Bag Co., St. Louis, Mo.

BAG PRINTING MACHINES
Schmutz Mfg., Louisville, Ky.

BAG FILLING MACHINES
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

BHC AND LINDANE
Ashcraft-Wilkinson Co., Atlanta, Ga..
Diamond Alkali Co., Newark, N. J.
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Pittsburgh Agricultural Chemical Co., N. Y. C.

BLOWERS
Standard Electric Mfg. Co., West Berlin, N. J.

BONE PRODUCTS
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
McIver & Son. Alex M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

BORAX AND BORIC ACID
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

BROKERS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

BUCKETS—Hoist, Crane, etc.
Hayward Company, The, New York City

CALCIUM ARSENATE
American Agricultural Chemical Co., N. Y. C.

CARS AND CART
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

CASTOR POMACE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
McIver & Son, Alex. M., Charleston, S. C.

CHEMISTS AND ASSAYERS
Gascoyne & Co., Baltimore, Md.
Shuey & Company, Inc., Savannah, Ga.
Wiley & Company, Baltimore, Md.

CHLORDANE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.

CLAY
Ashcraft-Wilkinson Co., Atlanta, Ga.

CONDITIONERS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
Keim, Samuel D., Philadelphia, Pa.
McIver & Son, Alex. M.. Charleston, S. C.
National Lime & Stone Co., Findlay, Ohio

CONTROL SYSTEMS
Sackett & Sons Co., The A. J., Baltimore, Md.

CONVEYORS—Belt
Sackett & Sons Co., The A. J., Baltimore, Md.

COPPER SULFATE
Tennessee Corp., Atlanta, Ga.

COTTONSEED PRODUCTS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa

DDT
Ashcraft-Wilkinson Co., Atlanta, Ga.
Diamond Alkali Co., Newark, N. J.
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

DIELDRIN
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.

DILUENTS
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.
Summit Mining Corporation, Carlisle, Pa.

DITHIOCARBAMATES
Berkshire Chemicals, New York City

DRYERS
Sackett & Sons Co., The A. J., Baltimore, Md.

ELEVATORS—Bucket
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

EMULSIFIERS
Atlas Powder Co., Wilmington, Del.

ENGINEERS—Chemical and Industrial
Chemical Construction Corp., New York City
Fairlie, Inc., Andrew M., New York City
General Industrial Development Corp., N. Y. C.
Marietta Concrete Corporation, Marietta, Ohio
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.
Titlestad Corporation, Nicolay, New York City

FERTILIZER—Mixed
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Davison Chemical Corporation, Baltimore, Md.
International Min. & Chem. Corp., Chicago, Ill.
Mathieson Agricultural Chemicals Co., Little Rock Ark.
Southern States Phosphate & Fertilizer Co., Savannah, Ga.

FILLERS
McIver & Son, Alex. M., Charleston, S. C.

FISH SCRAP AND OIL
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston. S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

FULLER'S EARTH
Ashcraft-Wilkinson Co., Atlanta, Ga.

FUNGICIDES
American Agricultural Chemical Co., N. Y. C.
Berkshire Chemicals, New York City
Tennessee Corp., Atlanta, Ga.

GAS MASKS
Willson Products, Inc., Reading, Pa.

GOGGLES
Willson Products, Inc., Reading, Pa.

HERBICIDES
Diamond Alkali Co., Newark, N. J.
Lion Oil Company, El Dorado, Ark.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

HERBICIDES—Oils
Lion Oil Company, El Dorado, Ark.

HOPPERS & SPOUTS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind..

IMPORTERS, EXPORTERS
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Berkshire Chemicals, New York City
Southern States Phosphate & Fertilizer Co., Savannah, Ga.
Woodward & Dickerson, Inc., Philadelphia, Pa.

INSECTICIDES
American Agricultural Chemical Co., N. Y. C.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Berkshire Chemicals, New York City
Diamond Alkali Co., Newark, N. J.
Pittsburgh Agricultural Chemical Co., N. Y. C.
U. S. Industrial Chemicals Co., New York City

IRON SULFATE
Tennessee Corp., Atlanta, Ga.

LEAD ARSENATE
American Agricultural Chemical Co., N. Y. C.

LIMESTONE
American Agricultural Chemical Co., N. Y. C.
Ashcraft-Wilkinson Co., Atlanta, Ga.
McIver & Son, Alex. M., Charleston, S. C.
National Lime & Stone Co., Findlay, Ohio
Pittsburgh Agricultural Chemical Co., N. Y. C.

LOADERS—Car and Wagon
Sackett & Sons Co., The A. J., Baltimore, Md.

Buyers' Guide

Classified Index to Advertisers in 'Farm Chemicals'

MACHINERY—Acid Making and Handling
Atlanta Utility Works, The, East Point, Ga.
Chemical Construction Corp., New York City
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.

MACHINERY—Acidulating
Chemical Construction Corp., New York City
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Ammoniating
Sackett & Sons Co., The A. J., Baltimore, Md.

MACHINERY—Granulating, Fertilizer
Sturtevant Mill Co., Boston, Mass.

MACHINERY—Grinding and Pulverizing
Atlanta Utility Works, The, East Point, Ga.
Bradley Pulverizer Co., Allentown, Pa.
Gruendler, Crusher & Pulverizer Co., St. Louis, Mo.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY—Material Handling
Atlanta Utility Works, The, East Point, Ga.
Hayward Company, The, New York City
Hough, The Frank G. Co., Libertyville, Ill.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY—Mixing, Screening and Bagging
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Sturtevant Mill Co., Boston, Mass.

MACHINERY—Power Transmission
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MACHINERY
Superphosphate Manufacturing
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

MAGNESIUM SULFATE
Berkshire Chemicals, New York City

MANGANESE SULFATE
McIver & Son, Alex. M., Charleston, S. C.
Tennessee Corp., Atlanta, Ga.

MANURE SALTS
Potash Co. of America, Washington, D. C.

MINOR ELEMENTS
Tennessee Corporation, Atlanta, Ga.

MIXERS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

NITRATE OF POTASH
Berkshire Chemicals, New York City

NITRATE OF SODA
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

NITROGEN SOLUTIONS
Commercial Solvents Corporation, New York City
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Lion Oil Company, El Dorado, Ark.
Phillips Chemical Co., Bartlesville, Okla.
Spencer Chemical Co., Kansas City, Mo.

NITROGEN MATERIALS—Organic
American Agricultual Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

NOZZLES—Spray
Monarch Mfg. Works, Philadelphia, Pa.
Spraying Systems Co., Bellwood, Ill.

PARATHION
Ashcraft-Wilkinson Co., Atlanta, Ga.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

PENTACHLOROPHENOL
Monsanto Chemical Co., St. Louis, Mo.

PHOSPHATE ROCK
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

PHOSPHORIC ACID
American Agricultural Chemical Co., N. Y. C.
Monsanto Chemical Co., St. Louis, Mo.

PLANT CONSTRUCTION—Fertilizer and Acid
Atlanta Utility Works, The, East Point, Ga.
Chemical Construction Corp., New York City
General Industrial Development Corp., N. Y. C.
Monsanto Chemical Co., St. Louis, Mo.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.
Titlestad Corporation Nicolay, New York City

POTASH—Muriate
American Potash & Chemical Corp., N. Y. C.
Ashcraft-Wilkinson Co., (Duval Potash) Atlanta, Ga.
Baker & Bro., H. J., New York City
Duval Sulphur & Potash Co., Houston, Tex.
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Potash Co. of America, Washington, D. C.
Southwest Potash Corporation, New York City
United States Potash Co., N. Y. C.

POTASH—Sulfate
American Potash & Chemical Corp., N. Y. C.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Potash Co. of America, Washington, D. C.

POTASSIUM PHOSPHATE
Monsanto Chemical Co., St. Louis, Mo.

PRINTING PRESSES—Bag
Schmutz Mfg. Co., Louisville, Ky.

PYROPHYLLITE
Ashcraft-Wilkinson Co., Atlanta, Ga.

REPAIR PARTS AND CASTINGS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

RESPIRATORS
Willson Products, Inc., Reading, Pa.

SACKING UNITS
Sackett & Sons Co., The A. J., Baltimore, Md.

SCALES—Including Automatic Baggers
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

SCREENS
Atlanta Utility Works, The, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman Foundry and Machine Co., Aurora, Ind.

SEPARATORS—Air
Sackett & Sons Co., The A. J., Baltimore, Md.

SPRAYS
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Spraying Systems Co., Bellwood, Ill.

STORAGE BUILDINGS
Butler Manufacturing Co., Kansas City, Mo.
Marietta Concrete Corporation, Marietta, Ohio

SULFATE OF AMMONIA
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.
Jackle, Frank R., New York City
Lion Oil Co., El Dorado, Ark.
Mathieson Agricultural Chem'ls Co., Little Rock, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Phillips Chemical Co., Bartlesville, Okla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFATE OF POTASH—MAGNESIA
International Min. & Chem. Corp., Chicago, Ill.

SULFUR
Ashcraft-Wilkinson Co., Atlanta, Ga.
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
Texas Gulf Sulphur Co., New York City
Woodward & Dickerson, Inc., Philadelphia, Pa.

SULFUR—Dusting & Spraying
Ashcraft-Wilkinson Co., Atlanta, Ga.
U. S. Phosphoric Products Div., Tennessee Corp., Tampa, Fla.

SULFURIC ACID
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
International Min. & Chem. Corp., Chicago, Ill.
Lion Oil Company, El Dorado, Ark.
Monsanto Chemical Co., St. Louis, Mo.
McIver & Son, Alex. M., Charleston, S. C.
Southern States Phosphate Fertilizer Co., Savannah, Ga.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

SUPERPHOSPHATE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City
Davison Chemical Corporation, Baltimore, Md.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
Mathieson Agricultural Chemicals Co., Little Rock, Ark.
McIver & Son, Alex. M., Charleston, S. C.
Southern States Phosphate Fertilizer Co., Savannah, Ga.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

SUPERPHOSPHATE—Concentrated
Armour Fertilizer Works, Atlanta, Ga.
Baker & Bro., H. J., New York City
International Min. & Chem. Corp., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TALC
Ashcraft-Wilkinson Co., Atlanta, Ga.

TANKAGE
American Agricultural Chemical Co., N. Y. C.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
International Min. & Chem. Corp., Chicago, Ill.
Jackle, Frank R., New York City
McIver & Son, Alex. M., Charleston, S. C.
Woodward & Dickerson, Inc., Philadelphia, Pa.

TEPP
Monsanto Chemical Co., St. Louis, Mo.

TOXAPHENE
Ashcraft-Wilkinson Co., Atlanta, Ga.
Pittsburgh Agricultural Chemical Co., N. Y. C.

2, 4-D
Diamond Alkali Co., Newark, N. J.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

2, 4, 5-T
Diamond Alkali Co., Newark, N. J.
Monsanto Chemical Co., St. Louis, Mo.
Pittsburgh Agricultural Chemical Co., N. Y. C.

UREA & UREA PRODUCTS
Baker & Bro., H. J., New York City
Nitrogen Div., Allied Chemical & Dye Corp., N.Y.C.

VALVES
Atlanta Utility Works, The, East Point, Ga.
Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.

ZINC SULFATE
Tennessee Corp., Atlanta, Ga.

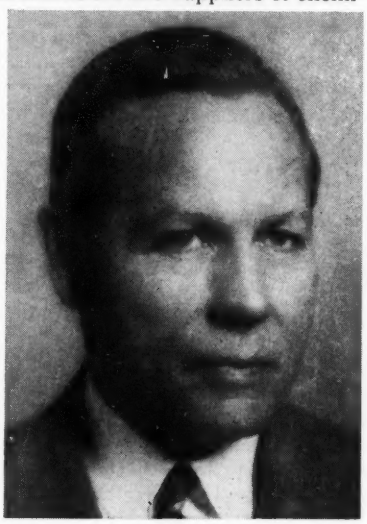
CSMA Convention Features Aerosols

A FASCINATING exhibit, depicting the history of aerosol products, was included in the diversified program of the Chemical Specialties Manufacturers Association at its 40th annual meeting in Washington early this month.

Meeting Dec. 7 and 8 at the Hotel Mayflower, delegates to the meeting heard J. Earl Coke, assistant secretary of agriculture, discuss the activities of the department and the part the CSMA members can play in the improvement of pesticidal products.

Coke and other U. S. Department of Agriculture officials jointly presented the aerosol exhibit.

Nearly 1,000 manufacturers and suppliers of chemical specialties ranging from aerosols, cleaners, sanitizers and insecticides to automotive specialties having a combined retail value of more than two billion dollars were represented at the meeting.



J. Earl Coke

One of the highlights of the meeting was presentation of CSMA's second annual Achievement Award to Dr. D. B. LaForge and Milton S. Schector of USDA for their work on insecticides.

The scientists are discoverers of the synthesis of allethrin. The men also have made major contributions to the development and testing of other important synthetic organic chemical insecticides, according to the association.

The 40th annual meeting of the 39-year-old organization was the largest in its history. One of the special events at the meeting was the honoring of three of the founders of the association.

So honored were M. M. Marcuse, chairman of the board of West Disinfecting Co., Karl B. Dolge, president of C. B. Dolge Co. and Fred A. Hoyt, former president of Frederick Disinfectant Co.

Papers presented at the meeting included insecticides for use in dairy barns, development of new, glass type aerosols, evaluation of rodenticides, emulsion stability testing and others of interest to the pesticide industry.

The two-day meeting included separate, concurrent sessions of the six divisions of which CSMA is composed. ◆

Alphabetical List of Advertisers

Demote the Promoters

ALTHOUGH "fly-by-night" companies are a constant irritant to soundly established companies in the fertilizer and pesticide industry, they aren't a major problem.

That is the opinion of a man who has made it his business to help protect industry and the public against the dangers of such hit and run organizations.

He's Van Miller, vice president of the National Better Business Bureau, and the only weapon he can use is public opinion.

Miller's attitude toward fly-by-nights was expressed at the recent meeting of the Association of Economic Poisons Control Officials, which has been highly concerned in recent months with wild claims for pesticide products that will deliver a knockout to any bug, under any circumstances.

Likewise, fertilizer control officials have expressed alarm over wonder fertilizers that will enable the home gardener to grow bumper crops without even getting his hands dirty.

In these circumstances, it's a good time to appraise the position of the fly-by-nights and similar organizations and to suggest some remedy.

To begin with, as Miller advised the pesticide control men, fly-by-nights aren't a real threat to established companies because "their impact is light and they don't fool many people for very long."

THE real problem, he declared is the mail order promoter (he was careful to distinguish from the established mail order *house*) who sells one product after another and is dangerous for the very reason that he is legitimate.

He spends an amazing amount of money for advertising and can do irreparable harm to the farm chemicals field.

The method of operations of the mail order promoter is simple. Here's how it works:

The promoter contracts to sell a product for a manufacturer, say a new "wonder" fertilizer or pesticide (or combination).

Then he launches a full-scale advertising promotion program, using full page advertisements in Sunday paper garden sections, radio and TV.

He doesn't worry very much about having facts to back up the advertising claims; for the moment he's just concerned with building up public demand for the product.

Because of interstate commerce regulations, individual states can't crack down on the promoter and his false or misleading claims.

The Federal Trade Commission can, but by the time it gets past a mammoth backlog of litigation, the promoter usually has dropped the fantastic claims and brought his advertising claims more in line with reality. In such cases, the pending suit against the company usually is dropped.

But the damage has been done. The promoter usually has succeeded in convincing large segments of the public that his product is a necessity for the green thumb, especially if the home gardener doesn't have to get that green thumb dirty. The promoter continues to make a killing.

THERE are ways of fighting this menace to established firms which stick strictly to the facts in their advertising.

Here are some suggestions:

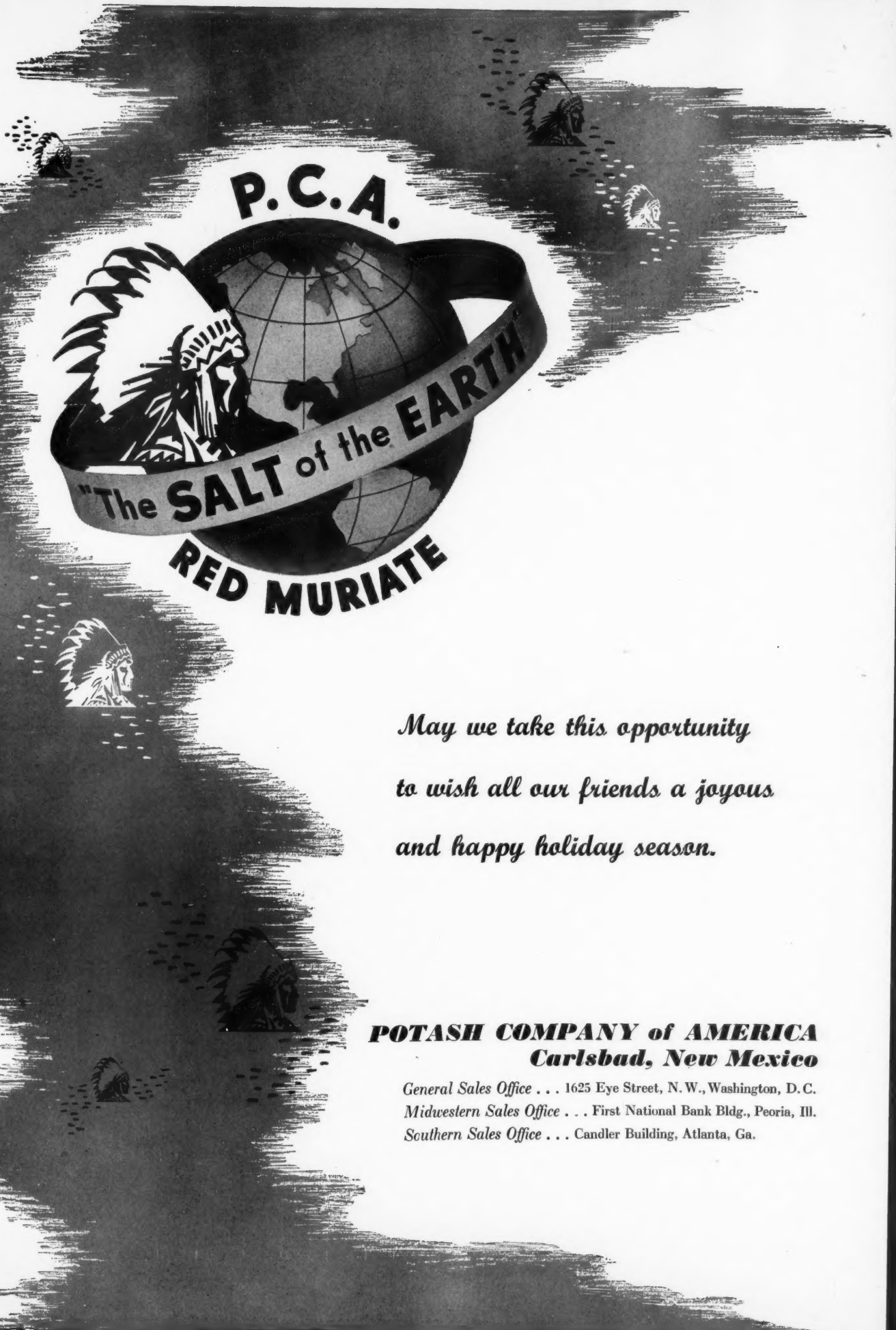
1. Control officials in the states should step up their publicity programs. By submitting statements and articles to the local press they can sound an authoritative voice against fallacious claims in advertising.

2. The National Better Business Bureau and the scores of local business bureaus throughout the country can continue to jump on phony claims for phony products. The power of public opinion often can be more potent than legislation.

3. Most important of all, members of the farm chemicals industry should cooperate with the better business bureaus, control officials and the press in making sure the statements about chemicals for the farm and home garden are well founded in fact. Industry members should exert the strongest pressure at their command, through the various trade associations and committees to weed out the charlatans as fast as they appear, without waiting for the slow action of the federal courts.

These circus-type promoters (fortunately very small in number in our field) do their damage early; they "get religion" as soon as the heat is put on, and clean up their advertising. But if their deleterious effect on a thriving industry is to be nullified, they must be stopped early.

—HAMILTON C. CARSON



May we take this opportunity to wish all our friends a joyous and happy holiday season.

POTASH COMPANY of AMERICA
Carlsbad, New Mexico

General Sales Office . . . 1625 Eye Street, N. W., Washington, D. C.
Midwestern Sales Office . . . First National Bank Bldg., Peoria, Ill.
Southern Sales Office . . . Candler Building, Atlanta, Ga.

phosphate
Ground rock phosphate for direct application to the soil.

phosphate
For the manufacture of complete fertilizers.

phosphate
Defluorinated phosphates for feed and mineral manufacturers.

phosphate
For the manufacture of industrial chemicals.

International phosphates for industry and ag

Phosphate Mines and Plants in Florida at Noralyn, Bonnie, Peace Valley, Achan, Mulberry; in Tennessee at Mt. Pleasant and Wales; in Mississippi at Tupelo.

phosphate division **INTERNATIONAL MINERALS & CHEMICAL CORPORATION**
General Offices: 20 North Wacker Drive, Chicago 6

End